WEST CHICAGO
ENVIRONMENTAL RESPONSE TRUST
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27 March 2018

Mr. David Seely
Remedial Project Manager
U.S. EPA, Region 5
Superfund Division (SR-6J)
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

SUBJECT: 2018 Annual Monitoring Report, Revision 00
Reaches 5D, 5E, 8, and the Mack Road Staging Area
The Kress Creek / West Branch DuPage River Site, West Chicago, IL

Dear Mr. Seely,

Weston Solutions, Inc., not individually but solely in its capacity as Trustee of the West Chicago Environmental Response Trust (WCERT), is pleased submit, for your review, the 2018 Annual Monitoring Report (Report) for the Kress Creek / West Branch DuPage River Site (Site). The Report presents the results of 2018 monitoring and maintenance activities that were performed, to characterize the status of restored habitats following the completion of remedial activities.in Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Site All monitoring and maintenance activities were performed in accordance with the approved *Conceptual Mitigation and Restoration Design Plan* (BBL, 2005).

Please do not hesitate to contact me if you have any questions or need any additional information. Your prompt review will be appreciated.

Sincerely,

Deepak L. Bhojwani
Program Manager, WCERT

Email cc: Jamie Lock (DuPage County); Kurt Stimpson (WCERT)

DRAFT
2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Prepared For:

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Version 00

March 2019

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site
DuPage County, Illinois

Certification

To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Mark O'Leary
AES Principal Investigator

Deepak Bhojwani
WCERT Program Manager

March 2019

Table of Contents

Figures

Tables

Exhibits

Appendices

Executive Summary

This report presents the results of monitoring and maintenance activities that were performed during 2018 for the Kress Creek / West Branch DuPage River Site in DuPage County, Illinois. The monitoring activities were performed by Applied Ecological Services, Inc. and SmithGroup on behalf of the West Chicago Environmental Response Trust (WCERT) to characterize the status of restored habitats following the completion of remedial activities and were performed in accordance with the approved *Conceptual Mitigation and Restoration Design Plan* (BBL, 2005).

Cleanup at the site began during summer 2005 and progressed through 2013. Due to Federal funding issues, the project went through an orderly shutdown on June 1, 2014, and no maintenance or monitoring activities were performed during the 2014 season. Maintenance or monitoring activities resumed in 2015, and key decisions were made by WCERT and agency staff that summer regarding these activities. Project activities continued throughout 2016-2018, and this report documents these activities for the 2018 season and the status of each reach.

Agency Meetings, Correspondence and Key Decisions

Representatives from AES, SmithGroup, and Tallgrass communicated with WCERT and the Local Communities (collectively, the Team) during 2018 to facilitate a mutual understanding of the status of monitoring and management activities. These communications are summarized below:

- **Site Management:** Tallgrass sent emails throughout the season informing WCERT, AES, SmithGroup, and the Local Communities of their management activities and seeking input when needed;
- **Site Monitoring:** AES and SmithGroup sent emails and memos to WCERT and other Team members reporting their findings and recommendations from their site inspections;
- **Streambank Repair:** A June 27 email from the County states that streambank repair areas appear stable and qualify for sign off.

Management Activities

Management of herbaceous species within specific areas of each reach under consideration during 2018 is summarized below.

<u>Reach 5E</u>

- This site was prepared for seeding by tilling with a power rake on April 6 and herbicided on May 1. A modified Upland Prairie/Savanna mix was installed on May 23. The site was mowed twice (June 27 and August 2) and spot herbicided twice (July 3 and 31) prior to the 2nd mowing. Reed canary grass (RCG) was also herbicided along the river three times during the season.

<u>Reach 8A</u>

- Pod R8-3. Garlic mustard and dame's rocket were pulled, and buckthorn and honeysuckle were herbicided on May 31. Giant ragweed was spot mowed along the river several times during the summer, and poison ivy was herbicided in September. Silky rye seed was broadcast in the woods on October 17.

- Area 4. Purple loosestrife was spot herbicided on May 31, July 3 and 31, September 10, and October 4. RCG and other weeds were herbicided on four of these trips.

- Areas 5. RCG, purple loosestrife and other weeds were herbicided on May 31, July 3 and 31, and September 10. Plugs were installed on July 12. Bindweed was pulled and box elder, buckthorn, and honeysuckle were cut and removed in the fall.

- Area 6. Buckthorn, clover, and RCG were spot herbicided on May 22. RCG, purple loosestrife and other weeds were herbicided on the same days as Areas 4 and 5. Plugs were installed on July 12. Invasive woody species (box elder, buckthorn, and honeysuckle) were spot herbicided or cut back in the fall.

Reach 8B

- Area 11. This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. The area northeast of the bridge was burned on April 11 and then over-seeded with Virginia wild rye. One hundred (100) plant plugs were also installed on the floodplain shelf just above the normal water level on June 26. Plugs were installed near and west of the shelter. Clover, thistle, and RCG were spot herbicided (May 29, July 2, and July30). Giant ragweed was also spot mowed (July 2). Cocklebur, ragweed, RCG, and goldenrod were also mowed or herbicided in August, September, and October.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. The area north and west of the path was burned on April 11. The staging area along Raymond Drive was seeded, planted, and blanketed by others as part of the bridge project. Clover, sweet clover, Canada thistle, crown vetch, bird's foot trefoil, RCG, giant ragweed, Kentucky bluegrass and other weeds were spot herbicided or mowed on May 22, and 29, June 8, July 2 and 30, August 9, and September 4 and 5. Canada goldenrod was wicked on October 4.

The Mack Road Staging Area

- No management occurred in this area.

Reach 5D Upland Savanna

- The site was spot herbicided and 1,100 native plant plugs were installed on May 22. The site was spot mowed and spot herbicided again on July 3. A small section of the west end dominated by Kentucky bluegrass was herbicided in September.

Monitoring Results and Management Recommendations

The following summarizes conclusions for each reach based on 2018 monitoring results and site inspections, and proposes management activities for specific areas for 2019.

Herbaceous Vegetation

Vegetation monitoring results and recommended management activities for each reach are detailed below and summarized in Table EX. 1. Table EX. 2 compares the 2018 monitoring results with the 2017, 2016, and 2015 monitoring results.

Reach 5E

Performance: Due to the site's poor performance, the upland savanna area of Reach 5E was broadcast herbicided during fall of 2017 and spring of 2018 and then reseeded later in this spring. The site was dominated by weedy annual species during 2018 monitoring, but native seedling establishment was evident.

Recommendations:

- Site dominated by yellow foxtail (annual weed) with a few natives scattered throughout.
- Burn upland savanna area spring 2019.
- Mow upland savanna 3X in 2019.
- Check and spot herbicide RCG and *Phragmites* along river (in restored floodplain area) in spring.

Reach 8A

Performance: Reach 8A met one of two performance standards and two of the four evaluation metrics. Invasive weed cover was less than 5%, the three most dominant species were native, and the Native Mean C, FQI, and RIV are higher that they were in 2015. Note, signoff will be considered separately for Reach 8A and Reach 8B, per the 2015 Annual Monitoring Report.

Recommendations: Pod R8-3

- Woods were seeded with silky rye during fall 2018.
- Spot herbicide orchard grass and smooth brome at far west end of woods.
- Remove climbing false buckwheat from vegetation along river.
- Spot herbicide or mow other weeds as needed.

Recommendations: Area 4

- Purple loosestrife and RCG were spot herbicided during fall 2018 and will be treated in spring 2019 as needed.
- Bindweed was removed during fall 2018.
- Install native wetland plugs next spring in bare areas created from herbiciding reed canary grass.

Recommendations: Area 5

- More box elder, buckthorn, and honeysuckle were removed in narrowest areas during the fall.
- Spot herbicide or pull patches of moneywort south of site access.

Recommendations: Area 6

- Purple loosestrife was spot treated during fall 2018 and will be treated along with other weeds in spring 2019 as needed.
- Box elder and green ash were cut and removed at south end of site during fall 2018.

Reach 8B

Performance: Reach 8B met or exceeded one of two performance standards and three of four evaluation metrics. The ground cover was 92.24%, Mean C was 3.74, the three most dominant species were native, and the Native Mean C, RIV, and FQI was higher than in 2015.

Recommendations: Area 11 – T1 (North of drive)

- Canada goldenrod was wicked during fall 2018 and will treated again in the spring (2019) along with other weeds as needed.
- Remove weedy woodies species saplings (e.g. silver maple).

Recommendations: Area 11 – T2 (South of drive)

- *WCERT is not responsible for repairing or managing area disturbed by bridge construction.*
- Spot herbicide Kentucky bluegrass and Canada goldenrod on south side of bridge during early spring 2019 in areas not disturbed by construction. Canada goldenrod was also wicked in this area during fall 2018.

Recommendations: Area 12 – T3 - T8

- Control Canada goldenrod, cool season grasses, and other weedy species around Transects 3, 4, 5 & 6. Canada goldenrod was also wicked in this area during fall 2018.
- Control giant ragweed around Transects 6, 7 & 8.
- Spot herbicide or cut cocklebur, woody re-sprouts, and other weeds in the two stream bank restoration areas.
- Cut and spot herbicide buckthorn and honeysuckle at the far north end of this area.

Mack Road – Staging Area

Performance: Mack Road staging area achieved its performance standard (>90% native vegetation cover) but will not receive signoff until Reach 5D-Upland Savanna also meets performance standards.

Reach 5D Upland Savanna

Performance: Reach 5D-Upland Savanna did not meet either performance standards and only one evaluation metric in 2018.

Recommendations:

- West end (~20 ft.) was blanket herbicided during fall 2018 and will be seeded next spring after a follow up herbicide treatment. Tilling the area before the second treatment may be beneficial.

- Mow and spot herbicide the site as needed.

Although no Reaches met both Performance Standards, Reaches 8A and 8B and Reach 5D Upland Savanna are close to meeting the established standards and a Pre-Certification Inspection will likely be requested for each in 2019.

Monitoring Methods

Herbaceous Species
Herbaceous species were quantitatively monitored along transects during September 18 and 19, 2018. Time meander searches were completed at each site on June 7, September 18 and 19. Herbaceous species were monitored per the Plan except that quadrats were located along transects as is generally accepted by regulatory agencies in the region. This modified protocol was approved per a June 11, 2015, email to the USEPA and Local Communities' representatives. The location and number of quadrats per transect is included as Exhibit B.

Tree and Shrub Survival
Tree and shrub monitoring for survival was performed in Reach 8B and Mack Road / Reach 5D Upland Savanna on August 21-22, 2018. Survival was determined by visual assessment of the plant material, using the following criteria established in 2015 by the project team and agency staff:

> *Replace any plants that are damaged, dead, or, in the opinion of the Owner's Representative, with concurrence from the Local Communities, are unhealthy, or have lost more than 25% of their natural shape due to dead branches, excessive pruning or improper maintenance.*

As modified by the 2015 Annual Monitoring Report, percent survival is based on the number of acceptable plants observed during 2018 as compared to the recorded number of acceptable plants observed during 2015. The criterion for acceptance is 90% survival of the 2015 acceptable plant material. Only plants that were coded as "Acceptable Condition" were considered to have "survived" for the percent survival calculation.

Given that three years have passed since the 2015 baseline monitoring assessment for woody species, several trees and shrubs that were previously coded as unacceptable based on the loss of 25% or more of their natural shape have sufficiently recovered and now meet criteria for acceptance. It is our recommendation that the baseline calculations established by the 2015 season be adjusted to include these plants. Results in this document have been revised and reported accordingly.

Monitoring Results

Herbaceous Vegetation

Table EX.1 below summarizes the results of 2018 herbaceous species monitoring. Monitoring results indicate that no areas have achieved all performance standards; therefore, none are recommended for signoff.

Table EX.1 2018 vegetation monitoring results by reach and management recommendations for 2019.

Reach	Performance Standard	2018 Results			2019 Management Recommendations	Recommend Signoff?
5E	90% cover	81.5%			Burn upland savanna area in spring; Mow upland savanna 3X; Check and spot herbicide red canary grass and Phragmites along river (in restored floodplain area) in spring.	Sign off not recommended; No performance criteria met. Site reseeded last spring (2018).
	<5% weeds	28.5%				
	Evaluation Metrics					
	Native C > 3.5	3.0				
	Native FQI	30.0				
	Native RIV	54.0				
	C, FQI, and RIVI increase	No				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SETPUM	17.8	No		
		PANCAP	5.4	Yes		
		AMBART	5.0	Yes		
8A	**Performance Standard**					
	90% cover	79.5%			Pod R8-3: Herbicide smooth brome in woods. Remove climbing false buckwheat and control other weeds along river. Area 4-6: Spot herbicide purple loosestrife, and other	Sign off not recommended. Reach met one of two performance standards and 2 of four evaluation metrics.
	<5% weeds	2.6%				
	Evaluation Metrics					
	Native C > 3.5	3.19				
	Native FQI	34.71				
	Native RIV	87.1				

Reach	Performance Standard	2018 Results			2019 Management Recommendations	Recommend Signoff?
	C, FQI, and RIV increase	Yes			weeds in spring. Remove more bindweed; Install native wetland plugs in Area 4 next spring.	
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SYMLAN	9.4	Yes		
		RUDLAC	7.7	Yes		
		ELYVIR	6.6	Yes		
	Performance Standard					
8B	90% cover	92.24%			Area 11: Spot herbicide Kentucky bluegrass and Canada goldenrod; Area 12: Control Canada goldenrod, cool season grasses, and other weedy species around Transects 3,4,5 & 6; Control giant ragweed around Transects 6,7 & 8. Spot herbicide or cut cocklebur, woody re-sprouts, and other weeds in the two stream banks restoration areas. Cut and spot herbicide buckthorn and honeysuckle at the far N end of Area 12.	Sign off not recommended. Reach met one of two performance standards and three of four evaluation metrics.
	<5% weeds	6.46%				
	Evaluation Metrics					
	Native C > 3.5	3.74				
	Native FQI	52.79				
	Native RIV	78.4				
	C, FQI, and RIVI increase	Yes				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SOLCAN	9.5	Yes		
		SORNUT	8.7	Yes		
		ELYVIR	7.0	Yes		

Reach	Performance Standard	2018 Results				2019 Management Recommendations	Recommend Signoff?
Mack Road Staging Area	90% native cover	96.37%				Spot herbicide non-native species.	Recommended when Reach 5D meets all standards.
5D Upland Savanna	**Performance Standard**					West end will be tilled, blanket herbicided and seeded next spring; Mow and spot herbicide as needed.	Sign off not recommended. Site did not meet performance standards and only one evaluation metric in 2018.
	90% cover	79.15%					
	<5% weeds	21.85%					
	Evaluation Metrics						
	Native C > 3.5	3.39					
	Native FQI	24.9					
	Native RIV	53.2					
	C, FQI, and RIV increase	Yes					
	No Bare ground ≥ 0.5 square meter	No					
	3 most dominant species native?	Species	RIV		Native?		
		ELYCAN	14.3	Yes	Yes		
		POAPRA	12.1	No	No		
		RUDSUB	9.2	Yes	Yes		

Table EX.2 2015 - 2018 vegetation monitoring results by reach.

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			Change From 2015
5E	90% cover	114.00%			N/A			82.70%			81.46%			-32.54%
	<5% weeds	56.30%			N/A			21.50%			28.48%			-27.82%
	Evaluation Metrics													
	Native C > 3.5	3.06			N/A			3.19			3.00			-0.06
	Native FQI	25.22			N/A			33.47			30.00			4.78
	Native RIV	56.5			N/A			45.0			54.0			-2.5
	No Bare ground ≥ 0.5 square meter	Yes			N/A			No			No			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	2/3 Species Native
		POAPRA	17.0	No	N/A	N/A	N/A	TRIHYB	15.0	No	SETPUM	17.8	No	
		SYMLAN	11.0	Yes	N/A	N/A	N/A	DAUCAR	7.7	No	PANCAP	5.4	Yes	
		ANDGER	6.6	Yes	N/A	N/A	N/A	ERIANN	6.8	Yes	AMBART	5.0	Yes	
8A	**Performance Standard**													
	90% cover	90.15%			61.50%			90.10%			79.54%			-10.61%
	<5% weeds	30.65%			14.76%			4.25%			2.64%			-28.01%
	Evaluation Metrics													
	Native C > 3.5	2.93			2.93			3.29			3.19			0.26
	Native FQI	25.05			25.4			35.84			34.71			9.66

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			Change From 2015
	Native RIV	62.2			77.6			83.7			87.1			24.9
	No Bare ground ≥ 0.5 square meter	No			No			No			No			No change
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		PHAARU	12.5	No	SYMLAN	16.0	Yes	RUDTRI	12.0	Yes	SYMLAN	9.4	Yes	
		SOLALT	10.8	Yes	GLEHED	12.0	No	EUPSER	9.3	Yes	RUDLAC	7.7	Yes	
		SYMLAN	9.9	Yes	RUDSUB	6.5	Yes	SYMLAN	6.5	Yes	PHYVIR	6.6	Yes	
8B	**Performance Standard**													
	90% Cover	105.00%			94.30%			98.90%			92.24%			-12.76%
	<5% weeds	24.15%			16.10%			14.05%			6.46%			-17.69%
	Evaluation Metrics													
	Native C > 3.5	3.72			3.12			3.87			3.74			0.02
	Native FQI	44.76			33.21			55.24			52.79			8.03
	Native RIV	70.8			74.9			78.1			78.4			0.4
	No Bare ground ≥ 0.5 square meter	No			No			No			No			No change
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		SOLALT	10	Yes	SOLCAN	8.0	Yes	SOLCAN	9.5	Yes	SOLCAN	9.5	Yes	
		ELYVIR	4.7	No	ELYCAN	4.6	Yes	SORNUT	8.3	Yes	SORNUT	8.7	Yes	
		POAPRA	4.2	Yes	ELYVIR	4.5	Yes	SYMLAN	5.4	Yes	ELYVIR	7.0	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			Change From 2015
Mack Road Staging Area	90% native cover	85.20%			93.10%			87.30%			96.37%			11.17%
5D Upland Savanna	**Performance Standard**													
	90% cover	N/A			79.00%			95.20%			79.15%			0.15%
	<5% weeds	N/A			40.08%			10.08%			21.85%			-18.23%
	Evaluation Metrics													
	Native C > 3.5	N/A			1.46			3.19			3.39			1.93
	Native FQI	N/A			12.07			23.21			24.9			12.83
	Native RIV	N/A			34.5			47.6			53.2			18.7
	No Bare ground ≥ 0.5 square meter	N/A			No			Yes			No			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	2/3 Species Native
		N/A	N/A	N/A	PASLAE	10.9	No	ERIVIL	24.6	No	ELYCAN	14.3	Yes	
		N/A	N/A	N/A	AVESAT	9.3	No	ELYCAN	14.9	Yes	POAPRA	12.1	No	
		N/A	N/A	N/A	POAPRA	8.7	No	RUDSUB	7.3	Yes	RUDSUB	9.2	Yes	

*Only Native C, Native FQI, and Native RIV need to improve from Year 1 to Year 3 per the performance standard found in the Plan.

Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site achieved the performance standard for survival of woody plants, with 90% total survival of the plants remaining after the 2015 monitoring season. Only one tree was lost at Mack Road since the 2017 monitoring season. Alternatively, Reach 8B does not meet the performance standard, with 74% of all plants surviving. Since 2017, an additional 4 trees and 6 shrubs were lost at Reach 8B. Table EX.3 below summarizes the results of Tree and Shrub Survival Monitoring.

During the 2018 monitoring session, several healthy trees and shrubs were observed that were previously classified as unacceptable. The 2015 acceptable condition quantities were modified to include these trees and shrubs as part of the baseline for evaluation.

Table EX.3 Percent survival of trees and shrubs in all reaches, 2018 monitoring season.

Site	% Survival Trees	% Survival Shrubs	Total % Survival of Woody Plants
Mack Road / Reach 5D Upland Savanna	98%	85%	90%
Reach 8B	79%	71%	74%

Discussion

Herbaceous Vegetation

Reach 5E: Reach 5E met neither of the performance standards and none of the evaluation metrics. The native FQI increased from 2015, but Native Mean C and RIV dropped from 3.06 and 56.5 in 2015 to 3.00 and 54.0 in 2018, respectively. Native RIV, however, has increase from 2017. The native Mean C was below 3.5 (3.00), total vegetation cover was below 90% (81.46%), invasive weeds occupied more than 5% (28.48%) of herbaceous ground cover, and patches of bare ground exceeded 0.5 square meters.

The site was blanket herbicided in late 2017, then tilled, herbicided, and reseeded during the next spring. In 2018, the site was dominated by yellow foxtail, witchgrass, common ragweed, hairy cupgrass, and big bluestem.

The Upland Savanna areas of Reach 5E were power raked and seeded with a modified Upland Prairie/Savanna mix the spring of 2018, and then mowed twice and spot herbicided twice later in the season. The modified seed mix includes more prairie species and less woodland and wetland species. RCG along the river (in the restored floodplain area) was also spot herbicided three times during 2018.

Reach 8A: Reach 8A met or exceeded one performance standard and two evaluation metrics for 2018. The three most dominant species were native, and the Native Mean C, FQI, and RIV are higher that they were in 2015, and invasive weed cover was less than 5%. However, the native Mean C was less than 3.5 (3.19) and patches of bare ground exceeded 0.5 square meters. Native RIV increased since last year (2017) while total cover and invasive weed cover were lower due to the intensive management of these sites. All of these sites were spot herbicided, mowed, or had invasive woody species removed and are expected to have greater total and native cover in 2019. Please note that signoff is considered separately for Reach 8A and Reach 8B per the 2015 Annual Monitoring Report.

The following summarizes the condition and recommended treatments for Reach 8A by area:

- Pod R8-3. Garlic mustard and dame's rocket were pulled, and buckthorn and honeysuckle were herbicided on May 31. Giant ragweed was spot mowed along the river several times during the summer, and poison ivy was herbicided in September. Silky rye seed was broadcast in the woods on October 17. Jewelweed dominates the east end of the woodland edge, and native species cover has increased. Continue to mow giant ragweed again during 2019, herbicide smooth brome at the west end of the woods, remove climbing false buckwheat along the river, and spot herbicide other weeds as needed.

- Area 4. Purple loosestrife, was spot herbicided on May 31, July 3 and 31, September 10, and October 4. RCG and other weeds were herbicided on four of these trips. Many patches of RCG have been killed and these areas will be filled in with plugs next spring. Weedy species will be spot herbicided as needed during 2019.

- Areas 5. RCG, purple loosestrife and other weeds were herbicided on May 31, July 3, 31, and September 10. Plugs were installed on July 12 and survivorship was very good. Bindweed was pulled and box elder and honeysuckle were cut and removed in the fall. Weedy species will be spot herbicided as needed during 2019.

- Area 6. Buckthorn, clover, and RCG were spot herbicided on May 22. RCG, purple loosestrife and other weeds were herbicided on the same days as Areas 4 and 5. Invasive woody species (box elder, buckthorn, and honeysuckle) were spot herbicided or cut back in the fall. Plugs were installed on July 12 and survivorship was very good. Weedy species will be spot herbicided as needed during 2019.

Reach 8B: Reach 8B met one of two performance standard and three of four evaluation metrics. Total vegetation cover was 92.24%, the native Mean C was 3.74, the three most dominant species were native, and Native Mean C, FQI, and RIV all increased between 2015 and 2018. However, invasive weeds comprised greater than 5% (6.46%) of the herbaceous ground cover, and patches of bare ground exceed 0.5 square meters. The greatest improvement was the decrease of invasive weeds from 14.05% to 6.46% due to effective management of these sites.

The following summarizes the condition and recommended treatments for Reach 8B by area:

- Area 11: This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. Disturbed areas on both sides of the east end of the new bridge on the West drive over the DuPage River were seeded, planted, and blanketed in 2017. The area northeast of bridge was burned on April 11 and then over-seeded with Virginia wild rye. In addition, 100 plant plugs were also installed on the floodplain shelf just above the normal water level on June 26. Clover, thistle, and RCG were spot herbicided (May 29, July 2, and July 30). Giant ragweed was also spot mowed (July 2). Cocklebur, ragweed, RCG, and goldenrod were also mowed or herbicided in August, September, and October. The Forest Preserve District of DuPage County (FPDDC) also appears to be driving trucks on the eastern edge of the WCERT area on the south side of the bridge. Recommendations for 2019 include controlling Canada goldenrod, Kentucky bluegrass, and weedy woody (e.g. silver maple) re-sprouts.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. Both stream bank restoration access routes were seeded in fall 2017. The staging area along Raymond Drive was seeded during spring 2018 and has established well. The area north and west of the path was burned on April 11. Clover, sweet clover, Canada thistle, crown vetch, bird's foot trefoil, RCG, giant ragweed, Kentucky bluegrass and other weeds were spot herbicided or mowed on May 22, and 29, June 8, July 2 and 30, August 9, and September 4 and 5. Canada

goldenrod was wicked on October 4. Recommendations for 2019 include controlling giant ragweed in the area near the river (e.g. T6, T7 and T8), and Canada goldenrod and non-native cool-season grass and other weeds throughout the rest of the site. Buckthorn and honeysuckle re-sprouts will also be removed at the north end of T3 and T4.

Mack Road Staging Area and Reach 5D Upland Savanna

The Mack Road Staging Area achieved the performance standard of 90% native vegetative cover in 2016 and again this year (2018). No maintenance was completed in 2017 or 2018.

Reach 5D: The Reach 5D Upland Savanna area must meet the same two performance standards as other reaches, but neither were met in 2018. Native Mean C, FQI, and RIV have all increased since 2016, but no other evaluation metrics were met this year (2018). Weedy species were spot herbicided and live plugs of native grasses and forbs were also installed on May 22. This area was mowed and spot herbicided on July 3. A small section at the west end dominated by Kentucky bluegrass was herbicided in September and will be herbicided again and reseeded in the spring. The site will be spot herbicide and mowed as needed in 2019. Sign off for both the Mack Rd. Staging area and Reach 5D Upland Savanna is not recommended.

Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site meets the performance criteria of 90% survival for woody plant material. The only additional woody plant observed in unacceptable condition during the 2018 monitoring season was one *Quercus macrocarpa*. Several trees and shrubs that were previously unacceptable in 2015 were found to be alive and in acceptable condition during the 2018 monitoring visit. The 2015 acceptable condition plant quantities were adjusted to include these healthy plants in the baseline number to accurately document the percent survival.

The Reach 8 site did not meet the established performance criteria of 90% survival in 2016, 2017 or 2018. In 2018, 14 additional shrubs were documented as dead or missing and 6 additional trees were observed to be dead. As with the Mack Road site, 6 shrubs and 4 trees in Reach 8 that were previously recorded as unacceptable in 2015 were found to be alive and in good condition. The baseline plant quantities were adjusted to include these healthy plants, but it did not impact the overall result for meeting performance criteria.

Restored Banks

The West Branch of the Du Page River in Reach 8A is stable. Two areas of eroding bank on Ferry Creek in the McDowell Grove Forest Preserve (Reach 8B) were repaired and stabilized during summer 2017. These two areas remained stable in 2018 after three two-year flood events and the Local Communities are recommending sign off for these areas.

Conclusions and Recommendations

Herbaceous Vegetation

Management of Reach 8A and 8B has resulted in improved conditions at each reach. Non-native cover has been reduced from 4.3% to 2.64% in 8A, and 14.1% to 6.5% in 8B. Reach 8A met or exceeded one of two performance standards and two of the three evaluation metrics for 2018: invasive weeds are less than 5%, the three most dominant species are native, and the Native Mean C, FQI, and RIV increased since 2015. Reach 8B met or

exceeded one of two performance standards and three out of four evaluation metrics. Total vegetation cover was 92.2%, the native Mean C was 3.74, and the three most dominant species were native, and native Mean C, FQI, and RIV all increased since 2015. No management was performed at the Mack Road Staging Area in 2018. The Reach 5D upland savanna met one standard - native Mean C, FQI, and RIV are greater than they were in 2016 or 2017. Due to Reach 5E's poor performance, the upland savanna area of the site was broadcast herbicided during fall of 2017 and spring 2018 and was re-seeded later during that spring with a modified savanna mix.

Proposed management activities and the reaches where they will be implemented are listed in Table EX. 4 below. Table EX.4 summarizes proposed 2018 management activities by task and reach.

Table EX.4 Summary of proposed 2019 management activities by task.

Task	Reach(s)	Unit	Unit(s)	Schedule 2018
Burn	5E	Acres	4.57	Q1
Spot Herbicide (2-3 visits throughout the growing season)	8B-Area 12	Acres	8.98	Q2-Q3
	8B-Area 11	Acres	0.53	Q2-Q3
	8A-Area 6	Acres	0.23	Q2-Q3
	8A-Area 5	Acres	0.28	Q2-Q3
	8A-Area 4	Acres	0.35	Q2-Q3
	8A-Pod R8-3	Acres	0.14	Q2-Q3
	5D Upland Sav	Acres	0.23	Q2-Q3
	5E	Acres	4.57	Q2-Q3
Tilling	5D Upland Sav	Acres	0.23	Q2
Supplemental Seeding	5D Upland Sav	Acres	0.23	Q2
Install Plant Plugs	8A-Area 4	Acres	0.35	Q2
Mow 1-2x	8B-Area 12	Acres	8.98	Q2-Q3
	8A-Pod R8-3	Acres	0.14	Q2-Q3
	5E	Acres	4.57	Q2-Q3

Tree and Shrub Survival

The following recommendations are made for woody plant survival:

- Evaluate and reset all loose staking materials around trees and shrubs in Spring 2019.
- Although the Mack Road / Reach 5D Upland Savanna site is presently meeting woody plant performance standards, we do not recommend replacing trees and shrubs until the herbaceous vegetation also meets acceptance criteria. As the Mack Road / Reach 5D Upland Savanna herbaceous vegetation will not be eligible for signoff until fall 2019, we will continue to assess the woody plant survival to determine if replacements will be necessary in addition to the 2015 punch list.
- Although Reach 8B is presently not meeting woody plant performance standards, we do not recommend replacing woody material until the herbaceous vegetation meets acceptance criteria. As Reach 8B herbaceous vegetation will not be eligible for signoff until fall 2019, we will continue to assess the woody plant survival to determine appropriate replacements in addition to the 2015 punch list.

Restored Banks

The following recommendations are made for bank stability:

- Repaired areas of Ferry Creek were monitored and found to be stable following a bankfull discharge event as per the monitoring plan, and signoff is requested. Restored vegetation within the two Ferry Creek bank stabilization areas should be managed until all performance standards for Reach 8B are achieved.

Projection for Future Maintenance and Monitoring Activities

Maintenance and monitoring activities will continue until all areas meet established performance criteria and receive signoff. Based on the 2015 recommendation to blanket-herbicide and reseed Reach 5E, Reach 5D Upland Savanna, and Reach 8A Area 4, these areas will require at least three additional years of monitoring following seeding to verify that herbaceous vegetation established is successful. Reach 5D was reseeded in June 2016, and thus was eligible for signoff at the end of the 2018 growing season. However, it did not meet the acceptance criteria for herbaceous vegetation during the 2018 monitoring visit. Because access to Reach 5D is through the Mack Road Staging Area, this entire area will also be maintained and monitored until Reach 5D meets acceptance criteria. Reach 8A Area 4 was reseeded in November 2016 following summer herbicide applications. Therefore, the required three full growing seasons for monitoring of this area is anticipated to end during fall 2019. Also, because smaller sub-areas are not considered separately for signoff, all other areas of Reach 8A will also require monitoring through 2019. Reach 8B was eligible for signoff of herbaceous vegetation during fall 2018, as agreed upon by WCERT correspondence dated February 11, 2016, but it did not meet the performance criteria for herbaceous vegetation. The upland savanna area of Reach 5E was reseeded during spring 2018; thus, it will not be eligible for sign off until fall of 2020.

Monitoring of trees and shrubs in Reach 8B and the Mack Road Staging Area will continue until these areas meet herbaceous performance criteria. At that time, discussions will be held with the Local Communities to determine the appropriate woody plant material replacement strategy.

1.0 Introduction

This report presents the results of monitoring and maintenance activities that were performed during 2018 for the Kress Creek / West Branch DuPage River Site in DuPage County, Illinois. Monitoring activities were performed by Applied Ecological Services, Inc. (AES) and SmithGroup on behalf of the West Chicago Environmental Response Trust (WCERT) to characterize the status of restored habitats following the completion of remedial activities and were performed in accordance with the approved *Conceptual Mitigation and Restoration Design Plan* (BBL, 2005) with approved changes or clarifications as documented below. The 2018 monitoring results were compared to performance standards to determine if restored habitats were performing as designed, or if adaptive management maintenance activities should be implemented to achieve performance standards. Signoff is not requested for any of the Reaches this year.

1.1 Overall Project History

From 1932 to 1973, the Rare Earths Facility in West Chicago processed radioactive thorium and other elements from ores and sands. Wastes from the facility contaminated Kress Creek, the West Branch of the DuPage River, and other local sites, which collectively were designated by the USEPA as the Kress Creek Superfund Site. The site has been divided into several different sections or "Reaches" as described below:

- Reach 1: Kress Creek from the storm sewer outfall south of Roosevelt Road to May Street.
- Reach 2: Kress Creek from May Street to Joy Road.
- Reach 3: Kress Creek from Joy Road to Route 59.
- Reach 4: Kress Creek from Route 59 to the confluence with the West Branch DuPage River (WBDR).
- Reach 5A: WBDR from West Chicago Wastewater Treatment Plant to Gary's Mill Road.
- Reach 5B: WBDR from Gary's Mill Road to confluence with Kress Creek.
- Reach 5C: WBDR from the confluence with Kress Creek to Mack Road.
- Reach 5D: WBDR from Mack Road to River Oaks subdivision.
- Reach 5E: WBDR from River Oaks subdivision to Williams Road.
- Reach 6: WBDR from Williams Road to Butterfield Road.
- Reach 7: WBDR from Butterfield Road to Warrenville Dam.
- Reach 8A: WBDR from Warrenville Dam to approximately 2,200 feet upstream of McDowell Dam.
- Reach 8B: WBDR from Reach 8A to McDowell Dam.

Cleanup at the site began in Reach 5B and progressed through 2013 when the last of the work was completed at Reach 8B, the Bower Elementary School site in Reach 8A, and the Route 59 Bridge over Kress Creek. Per the *Conceptual Mitigation and Restoration Design Plan*, post-construction monitoring of streambanks and restored public land is required for a minimum of three years (BBL, 2005). This monitoring is ongoing for certain reaches as described in Section 2.0 below. Monitoring of residential and commercial sites was required for one year following construction and has been completed for all Reaches.

Due to Federal funding issues, the project went through an orderly shutdown on June 1, 2014, and no maintenance or monitoring activities were conducted until August 2015 as documented by the 2015 Annual Monitoring Report. Maintenance and monitoring continued in 2016 and 2017, as documented in the 2016 and 2017 Annual Monitoring Reports. This report documents the project activities for the 2018 season.

2.0 Agency Meetings, Correspondence and Key Decisions

Representatives from AES, SmithGroup, and Tallgrass communicated with WCERT and the Local Communities (collectively, the Team) during 2018 to facilitate a mutual understanding of the status of monitoring and management activities. Important meetings, correspondence, and key decisions are listed below:

- March 19, 2018: AES sent the 2018 burn plan to the Local Communities, Tallgrass, and WCERT, along with a list of notifications for McDowell Grove. Follow-up communications from the Local Communities clarified updated notifications and intended burn target dates.
- March 26 – April 11, 2018: Tallgrass kept the Local Communities and the rest of the team abreast of how the weather was affecting their burn schedule, notified them that a Bobcat would be out at Reach 5e to prep soils, and followed up with notes of how the burns went when they occurred on April 11 for Reach 8, Areas 11 and 12.
- April 30 – May 7, 2018: Tallgrass notified the Team that the second phase of boom-spraying at Reach 5E would occur on May 1. Subsequent conversations between AES and the Local Communities included sharing savanna species being recommended to add to the Upland Prairie species mix for Reach 5E, all of which were approved by the local communities.
- May 22, 2018: Email from Tallgrass to Team letting everyone know that native seed mixes would be installed at Reach 5E the following day.
- May 25, 2018: AES sent the Team a completed WCERT Native Vegetation Management Inspection Report based on their May 16 visit to Reach 8B, Areas 11 and 12 (McDowell Grove) and Reach 5E to assess management work completed to date.
- May 28-30, 2011: Emails from Tallgrass updating the Team regarding ongoing herbiciding at Reach 8 sites and Reach 5E and weather-induced scheduling changes.
- June 5, 2018: AES sent email to WCERT, the Local Communities, and Tallgrass letting them know that spring vegetation monitoring would be occurring on June 6 and 7 on site.
- June 6, 2018: Email from SmithGroup notifying the Team that Connor Nett of SmithGroup and Mike Polito of Tallgrass walked Reach 8 and the Mack Road site to flag vegetation that required stake removal or stake resetting. In addition to the stake resetting noted during 2017, 12 plants required stakes to be reset and a follow-up report was sent.
- June 12-13, 2018: Email from AES to Team updating the WCERT management recommendations based on the June 6-7 site visits. Follow-up conversations occurred between WCERT, AES, and Tallgrass regarding supplemental plug installation and additional watering at Reach 5 Upland Savanna.
- June 25-26, 2018: Email from Tallgrass notifying the Team of installation of plugs in Reach 8, area 11 on June 26, with additional plugs for Areas 5 and 6 to be installed later and scheduling a mow of Reach 5E on June 27 to suppress weedy annuals.
- June 27, 2018: The County informed WCERT by email that the Local Communities inspected the streambank repair areas along Ferry Creek (Reach 8B, Area 12) on June 5 and that these areas appeared to be stable and qualify for sign off. They also expressed concern about the amount of weeds in the access routes.
- July 2, 2018: Email from Tallgrass notifying the Team of additional spot-herbicide treatments occurring at Reach 5D, Reach 5E, Pod R8-3, and Reach 8, areas 4, 5, 6, 11 and 12 on July 2 and 3.
- July 3, 2018: AES provided WCERT an update on management of the access routes to the stream bank repair work in McDowell Grove.

- July 11, 2018: Email from Tallgrass notifying the Team of installation of 1,500 plugs throughout Reach 8, Areas 5 and 6 on July 12 and follow-up on additional watering there and at Area 11.
- July 16, 2018: Email from Tallgrass notifying the Team of additional watering of plugs at Reach 8, Areas 5 and 6 and 11 on July 17.
- July 19, 2018: Email from Tallgrass notifying the Team of scheduled repairs/removal of stakes as flagged earlier in the year at Reach 5D/Mack Road staging area, and Reach 8, Areas 11 and 12.
- July 27, 2018: Email from Tallgrass notifying the Team of ongoing invasive species management occurring at Reach 5D, Reach 5E, Pod R8-3, and Reach 8, Areas 4, 5, 6, 11 and 12; as well as an additional watering visit to Reach 8, areas 5, 6, and 11.
- July 31, 2018: Emails from AES and SmithGroup notifying the Team of upcoming fieldwork – AES fieldwork Aug 1 to assess site conditions at WCERT, and SmithGroup fieldwork to assess tree/shrub monitoring August 21-22.
- August 1, 2018: Email from Tallgrass letting WCERT, AES, and SmithGroup know that mowing is planned at Reach 5E and additional watering at Reach 8, Areas 5 and 6, both scheduled for August 2.
- August 3, 2018: Follow-up email from AES to WCERT, Tallgrass, and SmithGroup confirming that a site visit was conducted, and that Tallgrass has been doing a good job of management and all areas are improving. Full WCERT Native Vegetation Management Inspection Report followed on August 8, 2018.
- August 8, 2018: Email from Tallgrass notifying the Team that a crew is scheduled to mow at Reach 8, Areas 12 on August 9, targeting ragweed and Queen Anne's lace and will expand to selective herbiciding if necessary.
- August 13, 2018: Email from Tallgrass notifying the Team of additional watering to occur the following day at Reach 8, Areas 5 and 6.
- August 31, 2018: Email from Tallgrass notifying the Team of a management sweep to occur the following day through Reach 5D, 5E, Pod R8-3, and Reach 8 Areas 4, 5, 6, 10 and 11. A follow-up email was sent on September 7, stating that they needed one more day to complete work.
- September 5, 2018: Email from AES notifying WCERT, Tallgrass, and SmithGroup that site inspections and annual transect monitoring is scheduled for September 18 and 19.
- September 14, 2018: Email from AES to WCERT, SmithGroup, and Tallgrass notifying them that the site was inspected and found that the FPDDC mowed parts of Area 12 in McDowell Grove between the trail and the creek, and while doing so, mowed into Transect 7 & 8. Also, the two stream bank restorations areas in McDowell Grove were inspected again. They were well vegetated and appeared very stable. AES recommends sign off for these areas this year but believe the vegetation should be managed as long as management is occurring at Area 12 in McDowell Grove to prevent weeds from encroaching. Follow-up communication was made the same day to the FPDDC, notifying them of the mowing issues with the transects.
- September 14, 2018: Email from the Local Communities to Tall grass, AES, and WCERT requesting a burn schedule for the fall should any burns be planned. Later follow-up confirmed there was no plan for fall burns.
- September 17-20, 2018: Emails from AES to WCERT, SmithGroup, and Tallgrass detailing management recommendations based on observations during monitoring.
- September 25, 2018: Email from Tallgrass notifying the Team that tree staking is complete, but the totals differed significantly from earlier estimates. While 88 were originally proposed/quoted, the final tally came to 127 trees.

- October 3, 2018: Email from Tallgrass notifying the Team that a crew would make a pass-through Reach 8, Areas 4, 5, 6, and 12 to take care of some end of the year issues like bindweed, encroaching tree and shrub branches, and thinning out goldenrod.

2.1 Status of Restoration and Monitoring by Reach

Table 2.1 Summary of the status of each Reach for monitoring activities and agency signoff.

Reach or Area	Monitoring Period Start Date	Certified Completion of Monitoring	Comments
Reach 1	10.2.2007	12.15.2010	
Reach 2	10.2.2007	12.15.2010	
Reach 3A	10.2.2007	12.15.2010	
Reach 3B	11.27.2007	9.11.2012	
Reach 4	11.27.2007	9.11.2012	
Reach 5A	08.11.2006	9.11.2012	
Reach 5B	06.25.2008	9.11.2012	
Reach 5C	11.17.2008	9.11.2012	
Reach 5D	11.24.2008	9.11.2012	Excludes Mack Road / Reach 5D Upland Savanna
Reach 5E	11.24.2008	Ongoing	
Reach 6	08.24.2009	11.12.2013	
Reach 7	9.20.2012	April 2016	
Reach 8A	9.20.2012	Ongoing	
Reach 8A – Bower Elementary	10.28.2013	Ongoing	Requesting sign off in 2017 report. *Will request a Pre-Certification Inspection in 2019.*
Reach 8B	09.25.2015	Ongoing	
Mack Road Staging Area	6.8.2012	Ongoing	Includes Reach 5D Upland Savanna
Route 59 Bridge Area	12.7.2012	April 2016	

Based on the meetings held with Agency staff, below is a summary of the areas identified with ongoing monitoring activities for 2018. These areas are also documented for individual locations within each Reach on base maps in Exhibit A.

<u>Reach 5E</u>
Herbaceous: Full Performance Standards required
Tree / Shrub Survival: Monitoring completed, 2010
Restored Banks: Monitoring completed, 2011

<u>Reach 8A</u>
Herbaceous: Full Performance Standards required in areas shown on Exhibit A
Tree / Shrub Survival: N/A
Restored Banks: Monitoring completed, 2016

Reach 8A – Bower Elementary
Herbaceous: N/A
Tree / Shrub Survival: Warranty assessment for replacement plant material; *Will request a Pre-Certification Inspection in 2019.*
Restored Banks: N/A

Reach 8B
Herbaceous: Full Performance Standards required in areas shown on Exhibit A.
Tree / Shrub Survival: Monitoring required in areas shown on Exhibit C.
Restored Banks: Monitoring of repaired areas on Ferry Creek shown on Figure 5.2 required.

Mack Road Staging Area and Reach 5D Upland Savanna
Herbaceous: 90% Native Cover for Mack Road Staging Area; Full Performance Standards required for Reach 5D Upland Savanna.
Tree / Shrub Survival: Monitoring required for Mack Road Staging Area.
Restored Banks: N/A

3.0 Maintenance, Management and Monitoring Activities

3.1 Maintenance and Management Events

Following a year of no maintenance during 2014 due to lack of federal funding, maintenance and management activities resumed during late summer / fall 2015. Tallgrass Restoration, LLC, with oversight by SmithGroup staff, completed maintenance tasks during August and September of 2015. Tallgrass Restoration, LLC, with oversight by AES and SmithGroup staff, completed maintenance tasks from early spring through fall / early winter of 2016, 2017, 2018. Primary maintenance tasks during 2018 consisted of prescribed burning, broadcast and spot herbiciding invasive weeds, over-seeding with native mixes, and mowing. Table 3.1 summarizes management activities that occurred during 2018. See Appendix A for copies of field reports.

3.2 Monitoring Events

Monitoring herbaceous and woody plant material and the stability of banks and in-stream structures occurred over several visits as described below:

- Trees and Shrubs: Monitored August 21-22, 2018 per methods described below.
- Quantitative Herbaceous Monitoring: Monitored September 18 and 19, 2018, per methods described below.
- Floristic Inventories: Inventoried June 6 and 7, 2018, and during quantitative herbaceous monitoring September 18 and 19, 2018, per methods described below.
- Stream Banks and In-stream Structures: Monitored May 25 and August 1, 2018 per methods described below.

3.3 Management Activities

Management of areas within each reach is summarized below. More detailed lists of these activities are found in Table 3.1 and Appendix A.

<u>Reach 5E</u>

- This site was prepared for seeding by tilling with a power rake (April 6) and herbicded one month later (May 1). Later in May, the site was seeded with a modified Upland Prairie/Savanna mix (May 23). The site was mowed twice (June 27 and August 2) and spot herbicided twice (July 3 and July 31) prior to the 2nd mowing. RCG was also herbicided along the river three times during the season.

<u>Reach 8A</u>

- Pod R8-3. Garlic Mustard and dames rocket were pulled, and buckthorn and honeysuckle were herbicided on May 31. Giant ragweed was spot mowed along the river several times during the summer, and poison ivy was herbicided in September. Silky rye seed was broadcast in the woods on October 17.

- Area 4. Purple loosestrife was spot herbicided on May 31, July 3 and 31, September 10, and October 4. Reed canary grass (RCG) and other weeds were herbicided on four of these trips.

- Areas 5. RCG, purple loosestrife and other weeds were herbicided on May 31, July 3 and 31, and September 10. Plugs were installed on July12. Bindweed was pulled and box elder, buckthorn, and honeysuckle were cut and removed in the fall.

- Area 6. Buckthorn, clover, and RCG were spot herbicided on May 22. RCG, purple loosestrife and other weeds were herbicided on the same days as Areas 4 and 5. Plugs were installed on July 12. Invasive woody species (box elder, buckthorn, and honeysuckle) were spot herbicided or cut back in the fall.

Reach 8B

- Area 11. This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. The area northeast of bridge was burned on April 11 and then over-seeded with Virginia wild rye. One hundred (100) plant plugs were also installed on the floodplain shelf just above the normal water level on June 26. Plugs were installed near and west of the shelter. Clover, thistle, and RCGwere spot herbicided (May 29, July 2, and July 30). Giant ragweed was also spot mowed (July 2). Cocklebur, ragweed, RCG, and goldenrod were also mowed or herbicided in August, September, and October.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. The area north and west of the path was burned on April 11. The staging area along Raymond Drive was seeded, planted, and blanketed by others during bridge construction. Clover, sweet clover, Canada thistle, crown vetch, bird's foot trefoil, RCG, giant ragweed, Kentucky bluegrass and other weeds were spot herbicided or mowed on May 22, and 29, June 8, July 2 and 30, August 9, and September 4 and 5. Canada goldenrod was wicked on October 4.

The Mack Road Staging Area

- No management occurred in this area.

Reach 5D Upland Savanna

- Site was spot herbicided and 1,100 native plant plugs were installed on May 22. The site was spot mowed and spot herbicided again on July 3. A small section at the west end dominated by Kentucky bluegrass was herbicided in September.

Table 3.1 Summary of site inspections and specific maintenance and management tasks completed during 2018.

Date	Reach	Activity	Notes
3.28.2018	8B (Area 12)	Mow fire breaks	See 2018 WCERT Activities, Appendix A
4.6.2018	5E	Seed bed tilling	See 2018 WCERT Activities, Appendix A
4.11.2018	8B (Areas 11 & 12)	Prescribed Fire	See 2018 WCERT Activities, Appendix A
5.1.2018	5E	Seed bed herbicide	See 2018 WCERT Activities, Appendix A
05.16.2018	5E, 8B	Site inspection	See 05.25.2018 memo from Bill Stoll "WCERT Native Vegetation Management Inspection Report"
05.22.2018	5D, 8A & 8B	Plug installation (5D), spot herbicide and spot mowing (5D, 8A&B)	See 2018 WCERT Activities, Appendix A
05.23.2018	5E	Seed installation	See 2018 WCERT Activities, Appendix A
05.27.2018 and 6.16.2018	5D	Watering plugs	See 2018 WCERT Activities, Appendix A
05.29.2018	8B (Areas 11 & 12)	Herbicide	See 2018 WCERT Activities, Appendix A
05.31.2018	5E, 8A (all Areas)	Herbicide	See 2018 WCERT Activities, Appendix A
06.04.18	Mack Rd. and Reach 8B	Site inspection	Marking tree stake resetting or removal
06.6.2018 and 06.7.2018	5D, 5E, 8A, 8B	Monitoring	Floristic inventory and site inspection. Management recommendations emailed 06.12.18
06.8.2018	8A (Area 12)	Mowing	See 2018 WCERT Activities, Appendix A
06.19.2018	8A (Area 5 & 6)	Seed installation	See 2018 WCERT Activities, Appendix A
06.26.2018	8B (Area 11)	Plug installation	See 2018 WCERT Activities, Appendix A
06.27.2018	5E	Mowing	See 2018 WCERT Activities, Appendix A
07.2.2018-07.3.2018	5D, 5E, 8A (All Areas), 8B (Areas 11 & 12)	Mowing and herbicide	See 2018 WCERT Activities, Appendix A
07.12.2018	8A (Areas 5 & 6)	Plug installation	See 2018 WCERT Activities, Appendix A
07.12, 17 & 27.2018 and 08.2, 8 &13.2018	8A (Areas 5 & 6), 8B (Area 11)	Watering plugs	See 2018 WCERT Activities, Appendix A
07.20.2018 and 09.6.2018	8B (Area 12)	Reset tree staking	See 2018 WCERT Activities, Appendix A
07.30.2017-07.31.2017	5E, 8A (all Areas), 8B (Areas 11 & 12)	Mowing and herbicide	See 2018 WCERT Activities, Appendix A

Date	Reach	Activity	Notes
08.01.2018	5D, 5E, 8A & 8B	Site inspection	See 08.8.18 memo from Bill Stoll "WCERT Native Vegetation Management Inspection Report"
8.02.2018 and 08.09.2018	5E, 8B (Area 11 & 12)	Mowing	See 2018 WCERT Activities, Appendix A
09.04.2018	8B	Herbicide	See 2018 WCERT Activities, Appendix A
08.21-22.2018	Mack Rd, 5D & 8B	Site inspection and annual monitoring for woody vegetation	A spring walk-through is recommended to review tree staking conditions prior to beginning 2019 maintenance activities.
09.05.2018	8A (Pod8-3), 8B (Areas 11 & 12)	Mowing	See 2018 WCERT Activities, Appendix A
09.10.2018	5E, 8A (Areas 4, 5&6)	Herbicide	See 2018 WCERT Activities, Appendix A
09.12.18	5D, 5E, 8A, 8B	Site Inspection	Management recommendations emailed 09.17.18
09.18.18 and 09.19.18	5D, 5E, 8A, 8B	Monitoring	Collect transect data, conduct floristic inventories, and site inspection. Management recommendations emailed on 09.20.28
09.21.2018	Mack Rd., 5D	Tree fencing and herbicide	See 2018 WCERT Activities, Appendix A
10.4.2018	8A (Areas 4,5&6), 8B (Areas 11&12)	Tree pruning and removal (8A), spot herbicide and spotmowing (8A & 8B)	See 2018 WCERT Activities, Appendix A
10.17.2018	8A (Pod8-3)	Seed installation	See 2018 WCERT Activities, Appendix A

4.0 Monitoring Methods

4.1 Herbaceous Species

Herbaceous species were monitored along transects during September 18 and 19, 2018. Herbaceous species were monitored per the Plan except that quadrats were located along transects as is generally accepted by regulatory agencies in the region. This modified protocol was approved per a June 11, 2015 email to the USEPA and Local Communities' representatives. The location and number of quadrats per transect is included as Exhibit B.

4.2 Tree and Shrub Survival

Chapter seven of the monitoring plan states that shrub survival shall be monitored in three randomly located 25-square meter plots per acre, and tree survival shall be monitored in one 100-square meter plot per acre. Revised woody plant restoration requirements were established during 2015 to assist with the establishment of herbaceous vegetation and to prevent an overabundance of plantings with remaining trees that did not meet acceptable form. For plantings on property owned by the FPDDC, the agreed upon action items and assessment criteria are as follows:

- All trees noted as dead during the monitoring period will be allowed to remain in place. Removal is not necessary.
- All trees noted as re-growing from root or tree leader dead during the monitoring period will be allowed to remain in place. No pruning, removal, or future maintenance and monitoring is required for these plants.
- The plants found to be in acceptable condition in the 2015 assessment are the new baseline for maintenance and monitoring for each reach. Therefore, 90% survival of these plants is the criteria for acceptance, and full maintenance and monitoring is required.*
- Tree and shrub replacements for plants not meeting acceptance criteria during 2015 shall be replaced at the completion of the maintenance and monitoring period for each reach as a punch list item. FPDDC will provide planting locations for installation of the replacement plants. The geographic origin of all plant materials shall be within a 100-mile radius of the project area. No maintenance and monitoring will be required for the replacements.
- Upon final signoff of each reach, all tree and shrub protection shall be removed.

*Amendment to bullet three listed above: The quantity of acceptable plants identified in the 2015 assessment was modified in the 2017 Annual Report to exclude trees and shrubs within the bridge construction zone at Reach 8, which were removed from WCERT's responsibility. Also, as described below, several trees and shrubs were observed during the 2018 monitoring visit to be in good condition that were previously classified as dead, missing or unacceptable. The 2015 acceptable condition quantities were modified to include these trees and shrubs which recovered from a previously unacceptable state and, thereby, convey an accurate survival percentage based on this new baseline quantity.

Annual tree and shrub survival monitoring was completed during August 21-22, 2018, and included the following locations:

- Reach 8B: Areas 11 and 12 as noted on Local Communities release memorandum dated September 27, 2013.
- Mack Road Staging Area: Entire staging area including Reach 5D Upland Savanna habitat.

During the monitoring, survival was determined by visual assessment of the plant material, using the following criteria established during 2015 by the project team and agency staff:

> *Replace any plants that are damaged, dead, or, in the opinion of the Owner's Representative, with concurrence from the Local Communities, are unhealthy, or have lost more than 25% of their natural shape due to dead branches, excessive pruning or improper maintenance.*

Given that three years have passed since the 2015 baseline monitoring assessment for woody species, several trees and shrubs that were previously coded as unacceptable based on the loss of 25% or more of their natural shape have sufficiently recovered and now meet criteria for acceptance. For trees, these individuals were typically rejected in previous monitoring seasons as having a dead leader, which forms the primary vertical stem of the plant. By 2018, the trees that now meet the criteria for acceptance have regrown a strong, single leader to replace the one that was lost. Trees where a new leader appears to be compromised or weakened by inclusive bark from the previously dead leader were still rejected for form and were not considered recovered. For shrubs, several situations may explain why plants previously coded as dead or missing are now considered acceptable:

- The stems on the shrub may have initially died, but the plant has since grown back from the root.
- In the initial 2015 assessment, much of the staking that marked planting locations was knocked down or otherwise missing. With no visible staking, several shrubs were not located and were coded as missing but may have just been too small in stature compared to the surrounding grasses and other vegetation to be visible. These plants may now have grown large enough to be located within the prairie.

For any trees and shrubs that now meet acceptance criteria, it is our recommendation that the baseline calculations established by the 2015 season be adjusted to include these plants and results in this document are reported accordingly.

Diagrams were created to document the condition of each individual plant installed per the record drawings, as shown in Exhibit C. The recorded conditions were characterized as follows:

- Acceptable Condition: Plant condition and form meets the criteria outlined above. Only plants that were coded as "Acceptable Condition" were considered to have "survived" for the percent survival calculation.
- Plant Dead: Entire plant was observed to be dead.
- Plant Missing within Original Stakes or Cannot be Located: The plant could not be located in the field. In some instances, staking was found which indicates a plant was installed in that location, but the plant was not visible within the enclosure. However, most of the time, neither the stakes nor the plant could be located in the vicinity shown on the record drawings.
- Plant Previously Coded as Unacceptable now Noted in Acceptable Condition: Plant was previously categorized as dead, missing or unacceptable, but was observed to be in good condition during the 2018 monitoring visit.

The diagrams in Exhibit C show all plant material currently in acceptable condition, as well as notations for plants that changed status to dead or otherwise unacceptable in 2018. For clarity of the diagrams, all plants that were previously coded as unacceptable in 2015, 2016 or 2017 are shown by outline only.

Figure 4.1: Original Plant Dead, Re-growing from Root

Figure 4.2: Tree Leader Dead, Lower Portion Alive

4.3 Restored Banks

Bank monitoring is required to be performed for three years following construction with at least one event occurring after a storm that equals or exceeds the bankfull discharge (approximately 2-year recurrence interval). The *Conceptual Design Report* (BBL, 2002) indicates 1,090 cubic feet per second (cfs) as the 2-year storm flow for the West Branch of the DuPage River based on data from US Geological Survey Gage #5540094 located near the Warrenville Dam. Restoration of the banks within the Reach 8A and 8B study area was completed during November 2013. Two areas on Ferry Creek along the east and south side of Reach 8, Area 12 were repaired and stabilized in July 2017.

The primary metric for restored banks is visual stability. Instability is noted as erosion features that threaten the integrity of the banks or in-stream structure. The limits of the "bank" extend from the toe of the slope to the break in the slope. Signs of erosion include undercutting, lateral erosion above rock toe protection, exposed geotextile fabric, or vertical erosion down the face of the bank from overland flows. Stability is evaluated based on observations of the bank and in-stream structures as compared to design drawings, considering location in the stream, physical dimensions, and consistency with adjacent, undisturbed banks.

Each stretch of the study area in Reach 8B was inspected in 2018. The stream bank repair areas on Ferry Creek were observed and photographed during our site inspection on August 1, 2018 and inspected again on September 12, 2018. Stable areas of Reach 8B that did not require repair (West Branch of the DuPage River) were inspected and photographed on December 11, 2018.

5.0 Monitoring Results

The results of the monitoring activities performed during 2018 in Reaches 5E, 8A, 8B, the Mack Road Staging Area, and Reach 5D Upland Savanna are presented as follows on a reach-specific basis.

5.1 Reach 5E

Herbaceous Vegetation

Performance Standards:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual cover: 81.5%
Actual cover of invasive weeds: 28.5%

Evaluation Metrics:

- Native Mean C ≥3.5 during year three
- Native Mean C, FQI, and native RIV must increase from year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value: 3.00
Native FQI: 30.00
Native RIV: 54.0

Top five species RIV:

- Yellow foxtail (Setaria pumila) 17.8
- Witchgrass (*Panicum capillare)* 5.4
- Common ragweed (*Ambrosia artemisiifolia)* 5.0
- Hairy cupgrass (*Eriochloa villosa*) 3.4
- Big bluestem (*Andropogon gerardii)* 3.0

None of the performance standards or evaluation metrics were met in Reach 5E. **Signoff is not recommended.**

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

Tree and Shrub Survival

The 2012 Annual Monitoring Report final document stated: "The tree and shrub survival performance standard was met on government property during 2010 and further woody plant monitoring requirements were terminated in

accordance with ICN No.13 (Page 9)." Therefore, tree and shrub monitoring was not conducted in Reach 5E during 2018.

Restored Banks

The third year of required bank monitoring for Reach 5E was completed during 2011 and all banks were concluded to be stable. Therefore, no bank monitoring was performed in Reach 5E during 2018.

5.2 Reach 8A

Herbaceous Vegetation

Performance Standards:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual cover:	79.5%
Actual cover of invasive weeds:	2.6%

Evaluation Metrics:

- Native Mean C ≥3.5 during year three
- Native Mean C, FQI, and native RIV must increase from year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value:	3.19
Native FQI:	34.71
Native RIV:	87.2

Top five species RIV:

- White panicled aster (*Symphyotrichum lanceolatum*) 9.4
- Tall golden glow (*Rudbeckia laciniata*) 7.7
- Virginia wild rye (*Elymus virginicus)* 6.6
- Brown eyed Susan (*Rudbeckia triloba*) 5.9
- Water pepper (*Persicaria hydropiper*) 5.5

One of two performance standards and two of four evaluation metrics were met in Reach 8A. **Signoff is not recommended.** However, the second Performance Standard (90% vegetative cover) is close to being met, and a Pre-Certification Inspection is recommended for 2019.

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

5.3 Reach 8B

Herbaceous Vegetation

Performance Standards:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual cover: 92.2%
Actual cover of invasive weeds: 6.5%

Evaluation Metrics:

- Native Mean C ≥3.5 during year three
- Native Mean C, FQI, and native RIV must increase from year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value: 3.74
Native FQI: 52.89
Native RIV: 78.4

Top five species RIV:

- Canadian goldenrod (*Solidago canadensis*) 9.5
- Indian grass (*Sorghastrum nutans)* 8.7
- Virginia wild rye (*Elymus virginicus)* 7.0
- Kentucky blue grass (*Poa pratensis)* 4.3
- Wild bergamot (*Monarda fistulosa)* 3.7

One of two performance standard and three of four evaluation metrics were met. **Signoff not recommended.** However, the second Performance Standard (<5% invasive weeds) is very close to being met, and a Pre-Certification Inspection is recommended for 2019.

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

Tree and Shrub Survival

Tables 5.1 and 5.2 indicate individual species survival rates observed in Reach 8B on Forest Preserve property as compared to the 2015 baseline, with locations as documented by the diagrams in Exhibit C. As mentioned earlier, several trees and shrubs that were previously documented as unacceptable in 2015 were found to be alive and in acceptable condition during the 2018 monitoring visit (Figure 5.1). The 2015 acceptable condition quantities were adjusted to include those plants which had recovered from a previously unacceptable state. Tables 5.3 and 5.4

provide additional details for plants coded in unacceptable condition for 2016, 2017 and 2018 including which plants were dead, were re-growing from the root, had a dead leader, or were missing.

Overall, woody plant material in the natural areas of Reach 8B had a 74% rate of survival, categorized as 71% survival of shrubs (150 of 210 plants) and 79% of trees (117 of 149). Since the 2017 monitoring period, the site lost an additional 14 shrubs and 6 trees, but an additional 6 shrubs and 4 trees were documented in acceptable condition. This overall rate of survival does not meet the established performance criteria of 90% survival. **Signoff is not recommended.**

Table 5.1 Survival rates of individual tree species in Reach 8B on Forest Preserve property.

Symbol	Scientific Name	Common Name	Initial Number Planted	Removed Due to 2017 Bridge	Total under WCERT Mgmt.	Cond. Accept. 2015	Cond. Accept. 2015 - Mod.*	Cond. Accept. 2018	Percent Survived
AG	Aesculus glabra	Ohio Buckeye	11	1	10	8	8	7	88%
AT	Asimina triloba	PawPaw	11		11	9	9	7	78%
BN	Betula nigra	River Birch	23		23	22	22	14	64%
CAR	Carpinus caroliniana	Bluebeech	10		10	7	7	5	71%
CCO	Carya cordiformis	Bitternut Hickory	23		23	9	9	8	89%
COV	Carya ovata	Shagbark Hickory	19		19	13	13	11	85%
CO	Celtis occidentalis	Hackberry	4		4	2	2	1	50%
CEC	Cercis canadensis	Eastern Redbud	16	2	14	9	10	9	90%
JN	Juglans nigra	Black Walnut	4		4	1	1	1	100%
MR	Morus rubra	Red Mulberry	4		4	3	3	2	67%
OV	Ostrya virginiana	Ironwood	21		21	10	10	7	70%
PO	Platanus occidentalis	Sycamore	10	1	9	8	8	7	88%
QA	Quercus alba	White Oak	21		21	4	4	4	100%
QB	Quercus bicolor	Swamp White Oak	16		16	11	11	9	82%
QC	Quercus coccinea	Scarlet Oak	20		20	3	3	2	67%
QM	Quercus macrocarpa	Bur Oak	32	1	31	16	18	18	100%
QV	Quercus velutina	Black Oak	13		13	4	5	4	80%
SN	Salix nigra	Black Willow	19	1	18	6	6	1	17%
TOTALS			**277**	**6**	**271**	**145**	**149**	**117**	**79%**

*Several trees and shrubs that were previously unacceptable in 2015 were found to be alive and in acceptable condition during the 2018 monitoring visit. The “Condition Acceptable 2015 – Modified” column includes these trees and shrubs as part of the baseline.

Table 5.2 Survival rates of individual shrub species in Reach 8B on Forest Preserve property.

Symbol	Scientific Name	Common Name	Initial Number Planted	Removed Due to 2017 Bridge	Total under WCERT Mgmt.	Cond. Accept. 2015	Cond. Accept. 2015 - Mod.*	Cond. Accept. 2018	Percent Survived
AF	Amorpha fruiticosa	Indigo Bush	21		21	20	20	15	75%
COC	Cepholanthus occidentalis	Buttonbush	11		11	9	9	9	100%
CS	Cornus stolonifera	Red Osier Dogwood	26	1	25	14	14	6	43%
CA	Corylus americana	American Hazelnut	38		38	35	36	34	94%
CCG	Crataegus crus-gali	Cockspur Hawthorn	40		40	16	18	15	83%
CM	Crataegus mollis	Downy Hawthorn	21		21	4	4	2	50%
PA	Prunus americana	Wild Plum	20		20	9	9	6	67%
PT	Ptelea trifolitata	Wafer Ash	20		20	9	10	8	80%
RA	Ribes americanum	Wild Black Currant	11		11	9	9	8	89%
RS	Rosa setigera	Illinois Rose	20		20	19	19	15	79%
SD	Salix discolor	Pussy Willow	18		18	2	2	2	100%
SC	Sambucus canadensis	Common Elderberry	23		23	7	7	1	14%
VL	Viburnum lentago	Nannyberry	8		8	5	5	2	40%
VP	Viburnum prunifolium	Blackhaw	20		20	19	19	15	79%
XA	Xanthoylum americanum	Prickly Ash	30		30	29	29	12	41%
TOTALS			**327**	**1**	**326**	**206**	**210**	**150**	**71%**

*Several trees and shrubs that were previously unacceptable in 2015 were found to be alive and in acceptable condition during the 2018 monitoring visit. The “Condition Acceptable 2015 – Modified” column includes these trees and shrubs as part of the baseline.

Table 5.3 Recorded unacceptable conditions for individual tree species in Reach 8B, 2016 - 2018.

Sym.	Scientific Name	Common Name	Dead 2016-2017	Dead 2018	Missing 2016-2017	Missing 2018	Leader Dead 2016-2017	Leader Dead 2018	Regrow from Root 2016-2017	Regrow from Root 2018
AG	Aesculus glabra	Ohio Buckeye	1							
AT	Asimina triloba	PawPaw					2			
BN	Betula nigra	River Birch	8							
CAR	Carpinus caroliniana	Bluebeech	2							
CCO	Carya cordiformis	Bitternut Hickory		1						
COV	Carya ovata	Shagbark Hickory		2						
CO	Celtis occidentalis	Hackberry							1	
CEC	Cercis canadensis	Eastern Redbud	1							
JN	Juglans nigra	Black Walnut								
MR	Morus rubra	Red Mulberry	1							
OV	Ostrya virginiana	Ironwood		3						
PO	Platanus occidentalis	Sycamore							1	
QA	Quercus alba	White Oak								
QB	Quercus bicolor	Swamp White Oak	1		1					
QC	Quercus coccinea	Scarlet Oak					1			
QM	Quercus macrocarpa	Bur Oak								
QV	Quercus velutina	Black Oak	1							
SN	Salix nigra	Black Willow	4		1					
TOTALS			**19**	**6**	**2**	**0**	**3**	**0**	**2**	**0**

Table 5.4 Recorded unacceptable conditions for individual shrub species in Reach 8B, 2016 - 2018.

Symbol	Scientific Name	Common Name	Dead 2016-2017	Dead 2018	Missing 2016-2017	Missing 2018
AF	Amorpha fruiticosa	Indigo bush	4		3	
COC	Cepholanthus occidentalis	Buttonbush				
CS	Cornus stolonifera	Red Osier Dogwood	8			
CA	Corylus americana	American Hazelnut	1	1		
CCG	Crataegus crus-gali	Cockspur Hawthorn	2	1		
CM	Crataegus mollis	Downy Hawthorn	1			1
PA	Prunus americana	Wild Plum	1	1	1	
PT	Ptelea trifolitata	Wafer Ash	1	1		
RA	Ribes americanum	Wild Black Currant		1		
RS	Rosa setigera	Illinois Rose	2	2		
SD	Salix discolor	Pussy Willow				
SC	Sambucus canadensis	Common elderberry	7			
VL	Viburnum lentago	Nannyberry	1	1		1
VP	Viburnum prunifolium	Blackhaw	1	1	2	
XA	Xanthoylum americanum	Prickly Ash	13	2	1	1
TOTALS			**42**	**11**	**7**	**3**

Figure 5.1: Photos of two *Quercus macrocarpa* and one *Quercus velutina* in Reach 8B that were previously unacceptable but found to be in healthy condition during the 2018 monitoring visit

Bank Stability

Data from US Geological Survey Gage #5540095 located near the Warrenville Dam indicates that nine events at or greater than the 2-year storm (1,090 cfs) occurred between November 2013 and November 2018 per Figure 5.2. Arrows on the graph below indicate these events.

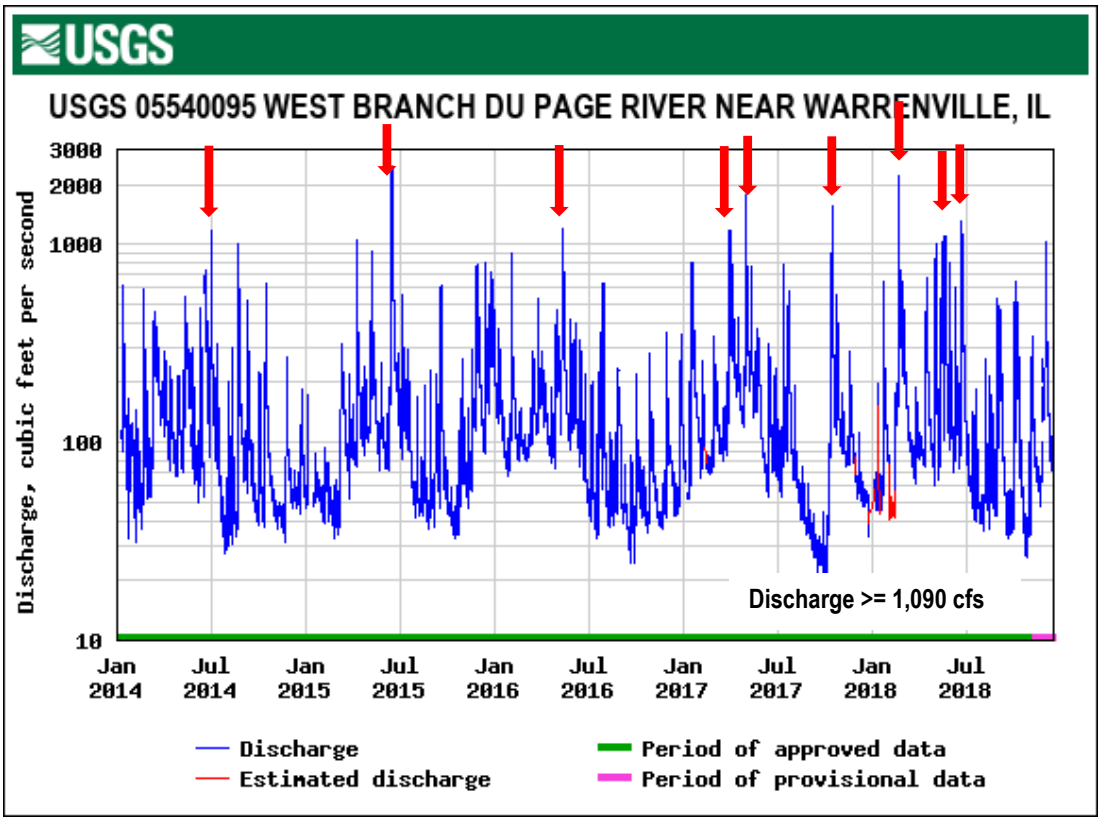

Figure 5.2: Events greater than 2-year storm (1,090 cfs) at USGS Gage #5540095, November 2013 – November 2018

The condition of banks and structures were stable within the study area except for two locations on Ferry Creek at McDowell Grove Forest Preserve. These two areas were repaired and stabilized during summer 2017 and were monitored during 2018.

The first restored area is found along an approximately 180' long stretch of the right bank where Ferry Creek discharges into the West Branch of the DuPage River (Figures 5.3 and 5.4). A combination of 18"-36" boulders and 3"-10" cobles were pressed into the bank to provide scour protection at the bend in the creek. Stone extended from the toe of the slope at the bottom of the channel to 12" beyond (horizontally) the bank full elevation.

The second restored area occurred on a 75' long stretch of the right bank of a riffle / grade control structure in Ferry Creek approximately 700 feet upstream of the confluence of Ferry Creek and the West Branch of the DuPage River. Figure 5.3 indicates the location of the repaired area on Ferry Creek, and Figure 5.5 is a photograph of the repaired right bank and riffle. 3"-10" cobble was pressed into the bank to prevent the creek from further eroding the banks and bypassing the riffle structure. Stone extended from the toe of the slope at the bottom of the channel to 12" beyond (horizontally) the bank full elevation. Boulders in the riffle were adjusted to allow debris to flow more freely between the stones and prevent future debris jams.

Representative photographs of stable reaches are included in Appendices A and D.

Figure 5.3: Approximate limits of eroded banks on Ferry Creek

Figure 5.4: Bank repair on right bank of Ferry Creek, north of the Area 9 peninsula (2017)

Figure 5.5: Looking downstream at the riffle and the repaired right bank (2017)

5.4 Mack Road Staging Area and Reach 5D Upland Savanna

Mack Road Staging Area Herbaceous Vegetation

Monitoring results below apply to the Mack Road Staging Area. No management was conducted in this area during 2018.

Performance Standard:

- 90% native vegetative cover

Results:

Actual Cover:	105.9%
Native Cover	96.4%
Native Mean C value:	2.86
Native FQA:	10.69
Native RIV:	88.3

Top five species RIV:

- Big bluestem (*Andropogon gerardii*): 33.7
- Indian grass (*Sorghastrum nutans*): 19.8
- Canadian goldenrod (*Solidago canadensis*) 15.5
- Sawtooth sunflower (*Helianthus grosseserratus*) 4.3
- Kentucky blue grass (*Poa pratensis*) 3.5

Mack Road Staging Area is meeting the standard of 90% native vegetation cover.

Mack Road Reach 5D Upland Savanna Herbaceous Vegetation

Performance Standard:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual Cover:	79.2%
Actual cover of invasive weeds:	21.85%

Evaluation Metrics:

- Native Mean C ≥3.5 during Year three
- Native Mean C, FQI, and native RIV must increase from Year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value:	3.39
Native FQA:	24.9
Native RIV:	53.2

Top five species RIV:

- Canada wild rye (Elymus canadesis) 14.3
- Kentucky bluegrass (*Poa pratensis*) 12.1
- Sweet coneflower (*Rudbeckia subtomentosa*) 9.2
- Dandelion (*Taraxacum officinale*) 5.4
- Hairy cupgrass (*Eriochloa villosa*): 4.5

Reach 5D has did not meet either performance standards and one out of four evaluation metrics**. Signoff is not recommended for Reach 5D Upland Savanna and Mack Road Staging area**. However, Reach 5D Upland Savanna is a very small area and if conditions improve enough this season to meet both performance standards, a Pre-Certification Inspection will be requested.

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

Tree and Shrub Survival

At the Mack Road Staging Area, individual species survival rates were observed as documented in Tables 5.5 and 5.6 and the diagrams in Exhibit C. Tables 5.7 and 5.8 provide additional details for plants coded in unacceptable condition for 2016, 2017 and 2018. Baseline quantities from 2015 were adjusted to include the woody plant material previously noted in unacceptable condition but observed to be acceptable during the 2018 monitoring visit.

Overall, woody plant material at the Mack Road Staging Area had an 90% rate of survival, categorized as 85% survival of shrubs (143 of 168 plants) and 98% of trees (96 of 98). Since the 2017 monitoring period, the site lost one additional tree. However, 4 trees and 7 shrubs which were previously coded as unacceptable were found to be in acceptable condition in 2018 (See Figure 5.6). Although the overall survival rate meets the performance criteria of 90% survival for woody plants, the herbaceous plant material does not meet performance standards at the Reach 5D Upland Savanna. Therefore, **signoff is not recommended.**

Table 5.5 Individual tree species survival rates at the Mack Road Staging Area.

Symbol	Scientific Name	Common Name	Initial Number Planted	Condition Acceptable 2015	Condition Acceptable 2015 - Mod.*	Condition Acceptable 2018	Percent Survived
CCO	Carya cordiformis	Bitternut Hickory	27	19	20	20	100%
COV	Carya ovata	Shagbark Hickory	25	23	23	23	100%
JN	Juglans nigra	Black Walnut	3	3	3	3	100%
OV	Ostrya virginiana	Hophornbeam	25	21	21	20	95%
QA	Quercus alba	White Oak	38	7	9	9	100%
QM	Quercus macrocarpa	Bur Oak	54	10	11	10	91%
QV	Quercus velutina	Black Oak	38	11	11	11	100%
TOTALS			**210**	**94**	**98**	**96**	**98%**

Table 5.6 Individual shrub species survival rates at the Mack Road Staging Area.

Symbol	Scientific Name	Common Name	Initial Number Planted	Condition Acceptable 2015	Condition Acceptable 2015 - Mod.*	Condition Acceptable 2018	Percent Survived
CA	Corylus americana	American Hazelnut	78	72	72	72	100%
CCG	Crataegus crus-gali	Cockspur Hawthorn	20	17	19	17	89%
CM	Crataegus mollis	Downy Hawthorn	13	8	10	10	100%
LP	Lonicera prolifera	Yellow Honeysuckle	12	4	4	4	100%
MI	Malus ioensis	Iowa Crabapple	16	9	10	8	80%
PA	Prunus americana	Wild Plum	25	12	12	8	67%
PV	Prunus virginiana	Choke Cherry	22	15	15	7	47%
PT	Ptelea trifolitata	Wafer Ash	19	3	3	2	67%
VP	Viburnum prunifolium	Blackhaw	16	16	16	11	69%
XA	Xanthoxylum americanum	Prickly Ash	16	6	7	4	57%
TOTALS			**237**	**162**	**168**	**143**	**85%**

* Several trees and shrubs that were previously unacceptable in 2015 were found to be alive and in acceptable condition during the 2018 monitoring visit. The “Condition Acceptable 2015 – Modified” column includes these trees and shrubs as part of the baseline.

Table 5.7 Recorded unacceptable conditions for individual tree species at Mack Road, 2016 - 2018.

Symbol	Scientific Name	Common Name	Dead 2016-2017	Dead 2018	Missing 2016-2017	Missing 2018
CCO	Carya cordiformis	Bitternut Hickory				
COV	Carya ovata	Shagbark Hickory				
JN	Juglans nigra	Black Walnut				
OV	Ostrya virginiana	Hophornbeam	1			
QA	Quercus alba	White Oak				
QM	Quercus macrocarpa	Bur Oak		1		
QV	Quercus velutina	Black Oak				
TOTALS			**1**	**1**	**0**	**0**

Table 5.8 Recorded unacceptable conditions for individual shrub species at Mack Road 2016 - 2018.

Symbol	Scientific Name	Common Name	Dead 2016-2017	Dead 2018	Missing 2016-2017	Missing 2018
CA	Corylus americana	American Hazelnut				
CCG	Crataegus crus-gali	Cockspur Hawthorn			2	
CM	Crataegus mollis	Downy Hawthorn				
LP	Lonicera prolifera	Yellow Honeysuckle				
MI	Malus ioensis	Iowa Crabapple	2			
PA	Prunus americana	Wild Plum	3		2	
PV	Prunus virginiana	Choke Cherry	6		2	
PT	Ptelea trifolitata	Wafer Ash	1			
VP	Viburnum prunifolium	Blackhaw	3		2	
XA	Xanthoxylum americanum	Prickly Ash	3			
TOTALS			**18**	**0**	**8**	**0**

Figure 5.6: Photos of one *Quercus alba* and one *Crataegus mollis* at Mack Road / Reach 5D Upland Savanna that were previously unacceptable but found to be in healthy condition during the 2018 monitoring visit

6.0 Discussion

6.1 Herbaceous Vegetation

Reach 5E

Reach 5E met neither of the performance standards and none of evaluation metrics. The native FQI increased from 2015, but Native Mean C and RIV dropped from 3.06 and 56.5 in 2015 to 3.00 and 54.0 in 2018, respectively. Native RIV, however, has increased from 2017. The native Mean C was below 3.5 (3.00), total vegetation cover was below 90% (81.46%), invasive weeds occupied more than 5% (28.48%) of herbaceous ground cover, and patches of bare ground exceeded 0.5 square meters.

The site was blanket herbicided in late 2017, then tilled, herbicided, and reseeded during the next spring. In 2018, the site was dominated by yellow foxtail, witchgrass, common ragweed, hairy cupgrass, and big bluestem.

The Upland Savanna areas of Reach 5E were power raked and seeded with a modified Upland Prairie/Savanna mix the spring of 2018, and then mowed twice and spot herbicided twice later in the season. The modified seed mix includes more prairie species and less woodland and wetland species. RCG along the river (in restored floodplain area) was also spot herbicided three times 2018.

The site dominated by yellow foxtail (annual weed) with a few natives scattered throughout. Recommendations for the 2019 include burning upland the savanna area in spring followed by three mowings and spot herbicing as needed. RCG and *Phragmites* along river (in restored floodplain area) will also be spot herbicided in spring.

Reach 8A

Reach 8A met or exceeded one of the two performance standards and two of the four evaluation metrics for 2018. The three most dominant species were native, and the Native Mean C, FQI, and RIV are higher that they were in 2015, and invasive weed cover was less than 5%. However, the native Mean C was less than 3.5 (3.19) and patches of bare ground exceeded 0.5 square meters. Native RIV increased since last year (2017) while total cover and invasive weed cover were lower due to the intensive management of these sites. All of these sites were spot herbicided, mowed, or had invasive woody species removed and are expected to have greater total and native cover in 2019. Weeds present within the reach along the river include reed canary grass, teasel, purple loosestrife, *Phragmites*, and common buckthorn. Herbaceous weeds present in Pod 8-3 included orchard grass, smooth brome, and climbing false buckwheat. Woody weedy species included box elder, honeysuckle, and buckthorn. Please note that signoff is considered separately for Reach 8A and Reach 8B per the 2015 Annual Monitoring Report.

The following summarizes the condition and recommended treatments for Reach 8A by area:

- Pod R8-3. Garlic Mustard and dame's rocket were pulled, and buckthorn and honeysuckle were herbicided on May 31. Giant ragweed was spot mowed along the river several times during the summer, and poison ivy was herbicided in September. Silky rye seed was broadcast in the woods on October 17. Site condition has improved. Jewelweed dominates the east end of the woodland edge, and native species cover has increased. Continue to mow giant ragweed again next season (2019), herbicide smooth brome at the west end of the woods, remove climbing false buckwheat along the river, and spot herbicide other weeds as needed.

- Area 4. Purple loosestrife, was spot herbicided on May 31, July 3 and 31, September 10, and October 4. RCG and other weeds were herbicided on four of these trips. Native cover has improved greatly this year. Many patches of RCG have been killed and these areas will be filled in with plugs next spring. Weedy species will be spot herbicided as needed in 2019.

- Areas 5. RCG, purple loosestrife and other weeds were herbicided on May 31, July 3 31, and September 10. Site has improved since last year. Plugs were installed on July 12 and survivorship is very good. Bindweed was pulled and box elder and honeysuckle were cut and removed in the fall. Weedy species will be spot herbicided as needed in 2019.

- Area 6. Buckthorn, clover, and RCG were spot herbicided on May 22. RCG, purple loosestrife and other weeds were herbicided on the same days as Areas 4 and 5. Invasive woody species (box elder, buckthorn, and honeysuckle) were spot herbicided or cut back in the fall. Plugs were installed on July 12 and survivorship is very good. The site has improved since last year. Weedy species will be spot herbicided as needed in 2019.

Reach 8B

Reach 8B met or exceeded one of the two performance standards and three of four evaluation metrics. Total vegetation cover was 92.24%, the native Mean C was 3.74, the three most dominant species were native, and Native Mean C, FQI, and RIV all increased between 2015 and 2018. However, invasive weeds comprised greater than 5% (6.46%) of the herbaceous ground cover, and patches of bare ground exceed 0.5 square meters. The greatest improvement was the decrease of invasive weeds from 14.05% to 6.46% due to effective management of these sites. Weeds present within the reach include sweet clover, Kentucky bluegrass, yellow foxtail, Canada thistle, crown vetch, reed canary grass, and *Phragmites*. Woody weedy species include honeysuckle and buckthorn, black locust, silver maple, and cottonwood saplings and re-sprouts.

The following summarizes the condition and recommended treatments for Reach 8B by area:

- Area 11: This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. Disturbed areas on both sides of the east end of the new bridge on the West drive over the DuPage River were seeded, planted, and blanketed in 2017. The area northeast of bridge was burned on April 11 and then over-seeded with Virginia wild rye. In addition, 100 plant plugs were also installed on the floodplain shelf just above the normal water level on June 26. Plugs were installed near and west of the shelter. Clover, thistle, and RCG were spot herbicided (May 29, July 2, and July 30). Giant ragweed was also spot mowed (July 2). Cocklebur, ragweed, RCG, and goldenrod were also mowed or herbicided in August, September, and October. Most of the area south of the drive (T2) was disturbed by the bridge construction and, according to an email from the county on November 22, 2017, WCERT is not responsible for repairing or restoring this area. Nor is WCERT responsible for repairing or restoring the area immediately north of the new bridge that was also disturbed during construction. The FPDDC also appears to be driving trucks on the eastern edge of the WCERT area on the south side of the bridge. Recommendations for 2019 include controlling Canada goldenrod, Kentucky bluegrass, and weedy woody (e.g. silver maple) re-sprouts.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. Both stream banks restoration access routes were seeded in fall 2017. The staging area along Raymond Drive was seeded this spring and has established well. The area north and west of the path was burned on April 11. Clover, sweet clover, Canada thistle, crown vetch, bird's foot trefoil, RCG, giant ragweed, Kentucky bluegrass and other weeds were spot herbicided or mowed on May 22, and 29, June 8, July 2 and 30, August 9, and September 4 and 5. Canada goldenrod was wicked on October 4. Recommendations for 2019 include controlling giant ragweed in the area near the river (e.g. T6, T7 and T8) and Canada goldenrod and non-native cool-season grass and other weeds throughout the rest of the site. Buckthorn and honeysuckle re-sprouts will also be removed at the north end of T3 and T4.

Mack Road Staging Area and Reach 5D Upland Savanna

The Mack Road Staging Area achieved the performance standard of 90% native vegetative cover in 2016 and again this year (2018). No maintenance was completed in 2017 or 2018.

The Reach 5D Upland Savanna area must meet the same two performance standards as other reaches, but neither were met in 2018. Native Mean C, FQI, and RIV have all increased since 2016, but no other evaluation metrics were met this year (2018). Weedy species were spot herbicided and live plugs of native grasses and forbs were also installed on May 22. This area was mowed and spot herbicided on July 3. A small section at the west end dominated by Kentucky bluegrass was herbicided in September and will be herbicide again and reseeded.in the spring. The site will be spot herbicided and mowed as needed in 2019.

6.2 Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site meets the performance criteria of 90% survival for woody plant material. The only additional woody plant observed in unacceptable condition during the 2018 monitoring season was one *Quercus macrocarpa*. Several trees and shrubs that were previously unacceptable in 2015 were found to be alive and in acceptable condition during the 2018 monitoring visit. The 2015 acceptable condition plant quantities were adjusted to include these healthy plants in the baseline number to accurately document the percent survival.

The Reach 8 site did not meet the established performance criteria of 90% survival in 2016, 2017 or 2018. In 2018, 14 additional shrubs were documented as dead or missing and six additional trees were observed to be dead. As with the Mack Road site, 6 shrubs and 4 trees in Reach 8 that were previously recorded as unacceptable in 2015 were found to be alive and in good condition. As mentioned above, the baseline plant quantities were adjusted to include these healthy plants, but it did not impact the overall result for meeting performance criteria.

6.3 Restored Banks

The West Branch of the Du Page River in Reach 8A is stable. Two areas of eroding bank on Ferry Creek in the McDowell Grove Forest Preserve (Reach 8B) were repaired and stabilized during summer 2017.

The eroded bank on the north side of the confluence of Ferry Creek and the West Branch of the DuPage River was repaired and stabilized. The eroded right bank of the riffle structure on Ferry Creek approximately 700 feet upstream of the confluence of the creek with the DuPage River was repaired and tied into the adjacent bank.

Restoration of the two above areas was completed during summer 2017. They were inspected in late Summer and Fall and remained stable. It was required that these areas be monitored for one year (2018) and following a two-year storm event. The creek and river experienced three two-year storm events in the first half of 2018 (see Figure 5.2) and the repaired areas remained stable. The County inspected these areas with the Local Communities on June 5, 2018 and stated in a June 27 email that they would recommend sign off.

In addition, disturbed vegetation in the access routes to the streambank restoration areas will be monitored until it meets performance standards required for the reach.

7.0 Conclusions and Recommendations

The following summarizes conclusions for each reach based on 2018 monitoring results and site inspections and proposes management activities for specific areas for 2019. A projected schedule for 2019 monitoring and management activities is included in Appendix E.

7.1 Herbaceous Vegetation

Vegetation monitoring results and recommended management activities for each reach are summarized in Table 7.1. Management activities are summarized by task in Table 7.3 below.

Reach 5E

Performance: Due to the site's poor performance, the upland savanna area of Reach 5E was broadcast herbicided during fall of 2017 and spring of 2018 and then reseeded later in this spring. The site was dominated by weedy annual species (e.g. foxtail), but native seedling establishment was evident.in 2018.

Recommendations:

- Burn upland savanna area spring 2019.
- Mow upland savanna 3X in 2019.
- Monitor and spot herbicide RCG and *Phragmites* along river (in restored floodplain area) in spring.

Reach 8A

Performance: Reach 8A met one of two performance standards and two of four evaluation metrics. The three most dominant species were native, and the Native Mean C, FQI, and RIV are higher than they were in 2015, and invasive weed cover was less than 5%. Note, signoff will be considered separately for Reach 8A and Reach 8B, per the 2015 Annual Monitoring Report.

Recommendations: Pod R8-3

- Woods were seeded with silky wild rye during fall 2018.
- Spot herbicide orchard grass and smooth brome at far west end of woods.
- Remove climbing false buckwheat from vegetation along river.
- Spot herbicide or mow other weeds as needed.

Recommendations: Area 4

- Purple loosestrife and RCG were spot herbicided during fall 2018 and will be treated in spring 2019 as needed.
- Bindweed was removed during fall 2018.
- Install native wetland plugs next spring in bare areas created from herbiciding reed canary grass.

Recommendations: Area 5

- More box elder, buckthorn, and honeysuckle were removed in narrowest areas during fall 2018.
- Spot herbicide or pull patches of moneywort south of site access.

Recommendations: Area 6

- Purple loosestrife was spot treated during fall 2018 and will be treated along with other weeds in spring 2019 as needed.
- Box elder and green ash were cut and removed at south end of site during fall 2018.

Reach 8B

Performance: Reach 8B met or exceeded one of two performance standards and three of four evaluation metrics. The ground cover was 92.24%, Mean C was 3.74, the three most dominant species were native, and the Native Mean C, RIV, and FQI was higher than in 2015.

Recommendations: Area 11 – T1 (North of drive)

- Canada goldenrod was wicked during fall 2018 and will treated again in the spring (2019) along with other weeds as needed.
- Remove weedy woodies species saplings (e.g. silver maple).

Recommendations: Area 11 – T2 (South of drive)

- *WCERT is not responsible for repairing or managing area disturbed by bridge construction.*
- Spot herbicide Kentucky bluegrass and Canada goldenrod on south side of bridge during early spring 2019 in areas not disturbed by construction. Canada goldenrod was also wicked in this area during fall 2018.

Recommendations: Area 12 – T3 - T8

- Control Canada goldenrod, cool season grasses, and other weedy species around Transects 3,4,5 & 6. Canada goldenrod was also wicked in this area during fall 2018.
- Control giant ragweed around Transects 6,7 & 8.
- Spot herbicide or cut cocklebur, woody re-sprouts, and other weeds in the two stream banks restoration areas.
- Cut and spot herbicide buckthorn and honeysuckle at the far north end of this area.

Mack Road – Staging Area

Performance: Mack Road staging area achieved its performance standard (>90% native vegetation cover) but will not receive signoff until Reach 5D-Upland Savanna also meets performance standards.

Reach 5D Upland Savanna

Performance: Reach 5D-Upland Savanna did not meet either performance standard and one of four evaluation metrics in 2018.

Recommendations:

- West end (~20 ft.) was blanket herbicided during fall and will be seeded this spring (2019) after a follow up herbicide treatment. Tilling the area before the 2nd treatment may be beneficial.
- Mow and spot herbicide the site as needed.

Table 7.1 2018 vegetation monitoring results by reach and management recommendations for 2019.

Reach	Performance Standard	2018 Results			2019 Management Recommendations	Recommend Signoff?
5E	90% cover	81.5%			Burn upland savanna area in spring; Mow upland savanna 3X; Check and spot herbicide red canary grass and Phragmites along river (in restored floodplain area) in spring.	Sign off not recommended; No performance criteria met. Site reseeded last spring (2018).
	<5% weeds	28.5%				
	Evaluation Metrics					
	Native C > 3.5	3.0				
	Native FQI	30.0				
	Native RIV	54.0				
	C, FQI, and RIVI increase	No				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SETPUM	17.8	No		
		PANCAP	5.4	Yes		
		AMBART	5.0	Yes		
8A	**Performance Standard**					
	90% cover	79.5%			Pod R8-3: Herbicide smooth brome in woods. Remove climbing false buckwheat and control other weeds along river. Area 4-6: Spot herbicide purple loosestrife, and other weeds in spring; Remove more bindweed; Install native wetland plugs in Area 4 next spring .	Sign off not recommended. Reach met one of two performance standards and two of four evaluation metrics.
	<5% weeds	2.6%				
	Evaluation Metrics					
	Native C > 3.5	3.19				
	Native FQI	34.71				
	Native RIV	87.1				
	C, FQI, and RIV increase	Yes				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SYMLAN	9.4	Yes		
		RUDLAC	7.7	Yes		
		ELYVIR	6.6	Yes		

Reach	Performance Standard	2018 Results			2019 Management Recommendations	Recommend Signoff?
8B	90% cover	92.24%			Area 11: Spot herbicide Kentucky bluegrass and Canada goldenrod; Area 12: Control Canada goldenrod, cool season grasses, and other weedy species around Transects 3,4,5 & 6; Control giant ragweed around Transects 6,7 & 8. Spot herbicide or cut cocklebur, woody re-sprouts, and other weeds in the two stream banks restoration areas. Cut and spot herbicide buckthorn and honeysuckle at the far N end of Area 12.	Sign off not recommended. Reach met one of two performance standards and three of four evaluation metrics.
	<5% weeds	6.46%				
	Evaluation Metrics					
	Native C > 3.5	3.74				
	Native FQI	52.79				
	Native RIV	78.4				
	C, FQI, and RIVI increase	Yes				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SOLCAN	9.5	Yes		
		SORNUT	8.7	Yes		
		ELYVIR	7.0	Yes		
	Performance Standard					
Mack Road Staging Area	90% native cover	96.37%			Spot herbicide non-native species.	Recommended when Reach 5D meets all standards.

Reach	Performance Standard	2018 Results				2019 Management Recommendations	Recommend Signoff?
5D Upland Savanna	**Performance Standard**					West end will be tilled, blanket herbicided and seeded next spring; Mow and spot herbicide as needed.	Sign off not recommended. Site did not meet either performance standards and only one of four evaluation metrics in 2018.
	90% cover	79.15%					
	<5% weeds	21.85%					
	Evaluation Metrics						
	Native C > 3.5	3.39					
	Native FQI	24.9					
	Native RIV	53.2					
	C, FQI, and RIV increase	Yes					
	No Bare ground ≥ 0.5 square meter	No					
	3 most dominant species native?	Species	RIV		Native?		
		ELYCAN	14.3	Yes	Yes		
		POAPRA	12.1	No	No		
		RUDSUB	9.2	Yes	Yes		

Table 7.2 2015-2018 vegetation monitoring results by reach.

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			Change From 2015
5E	90% cover	114.00%			N/A			82.70%			81.46%			-32.54%
	<5% weeds	56.30%			N/A			21.50%			28.48%			-27.82%
	Evaluation Metrics													
	Native C > 3.5	3.06			N/A			3.19			3.00			-0.06
	Native FQI	25.22			N/A			33.47			30.00			4.78
	Native RIV	56.5			N/A			45.0			54.0			-2.5
	No Bare ground ≥ 0.5 square meter	Yes			N/A			No			No			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	2/3 Species Native
		POAPRA	17.0	No	N/A	N/A	N/A	TRIHYB	15.0	No	SETPUM	17.8	No	
		SYMLAN	11.0	Yes	N/A	N/A	N/A	DAUCAR	7.7	No	PANCAP	5.4	Yes	
		ANDGER	6.6	Yes	N/A	N/A	N/A	ERIANN	6.8	Yes	AMBART	5.0	Yes	
8A	**Performance Standard**													
	90% cover	90.15%			61.50%			90.10%			79.54%			-10.61%
	<5% weeds	30.65%			14.76%			4.25%			2.64%			-28.01%
	Evaluation Metrics													
	Native C > 3.5	2.93			2.93			3.29			3.19			0.26
	Native FQI	25.05			25.4			35.84			34.71			9.66

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			Change From 2015
	Native RIV	62.2			77.6			83.7			87.1			24.9
	No Bare ground ≥ 0.5 square meter	No			No			No			No			No change
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		PHAARU	12.5	No	SYMLAN	16.0	Yes	RUDTRI	12.0	Yes	SYMLAN	9.4	Yes	
		SOLALT	10.8	Yes	GLEHED	12.0	No	EUPSER	9.3	Yes	RUDLAC	7.7	Yes	
		SYMLAN	9.9	Yes	RUDSUB	6.5	Yes	SYMLAN	6.5	Yes	PHYVIR	6.6	Yes	
8B	**Performance Standard**													
	90% Cover	105.00%			94.30%			98.90%			92.24%			-12.76%
	<5% weeds	24.15%			16.10%			14.05%			6.46%			-17.69%
	Evaluation Metrics													
	Native C > 3.5	3.72			3.12			3.87			3.74			0.02
	Native FQI	44.76			33.21			55.24			52.79			8.03
	Native RIV	70.8			74.9			78.1			78.4			0.4
	No Bare ground ≥ 0.5 square meter	No			No			No			No			No change
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		SOLALT	10	Yes	SOLCAN	8.0	Yes	SOLCAN	9.5	Yes	SOLCAN	9.5	Yes	
		ELYVIR	4.7	No	ELYCAN	4.6	Yes	SORNUT	8.3	Yes	SORNUT	8.7	Yes	
		POAPRA	4.2	Yes	ELYVIR	4.5	Yes	SYMLAN	5.4	Yes	ELYVIR	7.0	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			Change From 2015
Mack Road Staging Area	90% native cover	85.20%			93.10%			87.30%			96.37%			11.17%
5D Upland Savanna	**Performance Standard**													
	90% cover	N/A			79.00%			95.20%			79.15%			0.15%
	<5% weeds	N/A			40.08%			10.08%			21.85%			-18.23%
	Evaluation Metrics													
	Native C > 3.5	N/A			1.46			3.19			3.39			1.93
	Native FQI	N/A			12.07			23.21			24.9			12.83
	Native RIV	N/A			34.5			47.6			53.2			18.7
	No Bare ground ≥ 0.5 square meter	N/A			No			Yes			No			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	2/3 Species Native
		N/A	N/A	N/A	PASLAE	10.9	No	ERIVIL	24.6	No	ELYCAN	14.3	Yes	
		N/A	N/A	N/A	AVESAT	9.3	No	ELYCAN	14.9	Yes	POAPRA	12.1	No	
		N/A	N/A	N/A	POAPRA	8.7	No	RUDSUB	7.3	Yes	RUDSUB	9.2	Yes	

*Only Native C, Native FQI, and Native RIV need to improve from Year 1 to Year 3 per the performance standard found in the Plan.

Table 7.3 Summary of proposed 2019 management activities by task.

Task	Reach(s)	Unit	Unit(s)	Schedule 2018
Burn	5E	Acres	4.57	Q1
Spot Herbicide (2-3 visits throughout the growing season)	8B-Area 12	Acres	8.98	Q2-Q3
	8B-Area 11	Acres	0.53	Q2-Q3
	8A-Area 6	Acres	0.23	Q2-Q3
	8A-Area 5	Acres	0.28	Q2-Q3
	8A-Area 4	Acres	0.35	Q2-Q3
	8A-Pod R8-3	Acres	0.14	Q2-Q3
	5D Upland Sav	Acres	0.23	Q2-Q3
	5E	Acres	4.57	Q2-Q3
Tilling	5D Upland Sav	Acres	0.23	Q2
Supplemental Seeding	5D Upland Sav	Acres	0.23	Q2
Install Plant Plugs	8A-Area 4	Acres	0.35	Q2
Mow 1-2x	8B-Area 12	Acres	8.98	Q2-Q3
	8A-Pod R8-3	Acres	0.14	Q2-Q3
	5E	Acres	4.57	Q2-Q3

7.2 Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site currently meets performance criteria for woody plants, with a survival rate of 90%. Several trees and shrubs that were previously documented in unacceptable condition in 2015 were found to be acceptable during the 2018 monitoring visit. Additionally, the only woody plant loss at this site in 2018 was one *Quercus macrocarpa*. However, because herbaceous vegetation did not meet performance criteria at the Reach 5D Upland Savanna, we recommend continued observation and assessment of the woody plant survival until herbaceous plant material meets performance criteria. Because access to Reach 5D is through the Mack Road Staging area, this entire area will be maintained and monitored until Reach 5D meets acceptance criteria.

Although Reach 8 is short of meeting performance standards, we do not recommend providing replacement trees and shrubs at this time. Many of the woody plant losses in 2018 still appear to be due to the intense management activities needed to meet the herbaceous vegetation performance criteria, including losses this year of shrubs near treated multiflora rose and reed canary grass infestations. Any replacements made at this time will likely be impacted by the ongoing maintenance efforts. We recommend continuing to assess the woody survival until the herbaceous plant material meets performance criteria, so that appropriate replacement quantities can be determined in addition to the 2015 punch list.

At both Mack Road and Reach 8, several stakes around trees and shrubs were observed to be loose or missing. This likely happens as the staking materials naturally degrade or are bumped by maintenance crews or animals. The staking is scheduled to be assessed and reset as a maintenance activity in spring 2019.

7.3 Restored Banks

The West Branch of the DuPage River in Reach 8A is stable. Two areas of eroding bank on Ferry Creek in the McDowell Grove Forest Preserve (Reach 8B) were repaired and stabilized during summer 2017.

Restoration of the two areas on Ferry Creek was completed during Summer 2017. They were inspected in late Summer and Fall that year and remained stable. These areas were monitored again this year (2018) following three two-year storm event and remain stable. The County inspected these areas in June with the Local Communities and recommended sign off.

In addition, disturbed vegetation in the access routes to the streambank restoration areas will be monitored until it meets performance standards required for the reach.

7.4 Projection for Future Maintenance and Monitoring Activities

Maintenance and monitoring activities will continue until all areas meet established performance criteria and receive signoff. Based on the 2015 recommendation to blanket-herbicide and reseed, Reach 5E, Reach 5D Upland Savanna, and Reach 8A Area 4 will require three additional years of monitoring after seeding is complete in order to verify that the herbaceous vegetation establishment is successful. Reach 5D was reseeded June 4, 2016, and thus may be considered for signoff by the end of the 2018 growing season. Because access to Reach 5D is through the Mack Road Staging Area, this entire area will also be maintained and monitored through at least the 2018 growing season. Reach 8A Area 4 was reseeded November 30, 2016, following summer herbicide applications. Therefore, the required three full growing seasons for monitoring of this area is anticipated to end during fall 2019. Also, because smaller subareas are not considered separately for signoff, all other areas of Reach 8A will also require monitoring through 2019. Reach 8B may be considered for signoff of herbaceous vegetation during fall 2018, as agreed upon by WCERT correspondence dated February 11, 2016, and will be monitored and managed until that time or until performance standards are met. The uplands savanna area of Reach 5E will be seeded again next spring (2018); thus, it won't be eligible for sign off until fall of 2020.

Monitoring of trees and shrubs in Reach 8B and the Mack Road Staging Area will continue until these areas meet performance criteria, including the herbaceous vegetation as discussed above.

8.0 References

ARCADIS. 2012. *2012 Annual Monitoring Report - Reaches 5C, 5D, 5E and 6*. Kress Creek/West Branch DuPage River Site, DuPage County, IL

BBL. 2005. *Conceptual Mitigation and Restoration Design Plan.* Kress Creek/West Branch DuPage River Site and the River Portion of the Sewage Treatment Plant Site, DuPage County, IL.

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Darbyshire, S.J., C.E. Wilson et al. 2003. *The Biology of Invasive Alien Plants in Canada. 1. Eriochloa villosa (Thunb.) Kunth.* Canadian Journal of Plant Science. 2003, 83(4): 987-999.

SmithGroupJJR. 2016. 2015 Annual Monitoring Report- Reaches 5E, 7, 8, the Mack Road Staging Area, and the Route 59 Bridge Area of the Kress Creek/ West Branch DuPage River Site.

SmithGroupJJR and Applied Ecological Services. 2017. 2016 Annual Monitoring Report- Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek/ West Branch DuPage River Site.

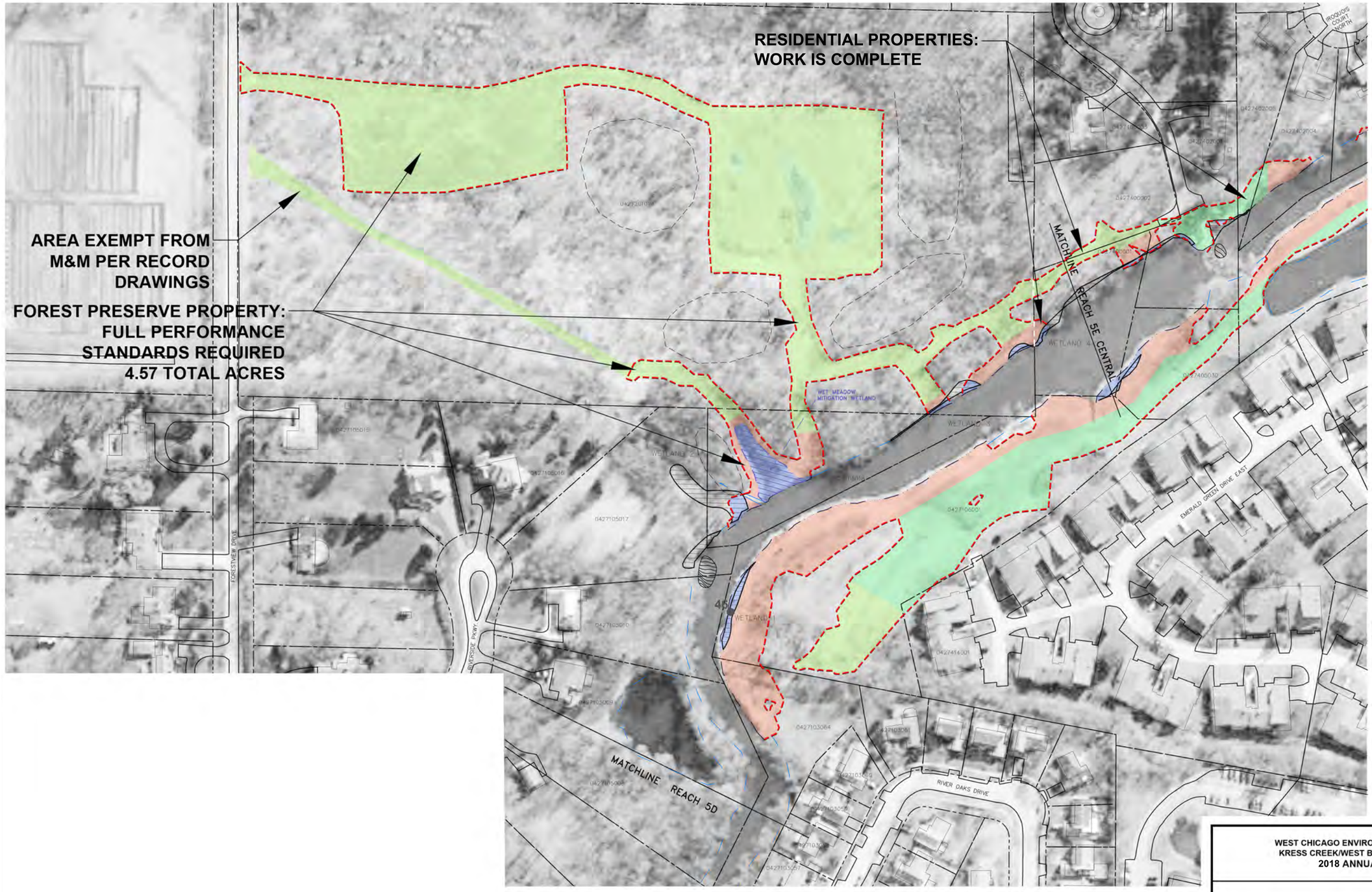
Applied Ecological Services and SmithGroupJJR. 2018. 2017 Annual Monitoring Report- Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek/ West Branch DuPage River Site.

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Exhibit A

Base Maps



NOTE:

1. BASE MAP PROVIDED BY TRONOX LLC IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINE WERE DEVELOPED BY BLASLAND, BOUCK & LEE FROM SURVEY DATA PROVIDED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI), DUPAGE COUNTY, AND TRONOX.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12A, TRACER NO. B0071030/0000/00026/DWG/71030G10.DWG, DATED 5/21/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 5E MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE
12-1

EXHIBIT A

POD R8-3: FULL PERFORMANCE STANDARDS REQUIRED (MAY 2014 PROGRESS RPT)
0.14 TOTAL ACRES

POD R8-40: RESIDENTIAL LOTS COMPLETE (MAY 2014 PROGRESS RPT)

POD R8-40:
PARCEL 04-35-404-013
RELEASED 08-11-2015

POD R8-4: RESIDENTIAL LOTS COMPLETE (MAY 2014 PROGRESS RPT)

MATCHLINE REACH 7

MATCHLINE DRAWING B-11B

BATAVIA ROAD

PERMANENT STONE PARKING LOT

MAIN STREET

WARRENVILLE ROAD

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH LAWN SEED PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH PRAIRIE DROPSEED

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11A

AREA 4: FULL PERFORMANCE STANDARDS REQUIRED, 0.35 ACRES
BANK STABILITY MONITORING REQUIRED, 450 LF

AREA 5: FULL PERFORMANCE
STANDARDS REQUIRED, 0.28 ACRES
BANK STABILITY MONITORING REQUIRED, 700 LF

AREA 3: NO M&M REQUIRED (9/27/13)
WEST BANK RELEASED FROM
BANK STABILITY MONITORING
(8/11/15)

APPROXIMATE BIKE TRAIL

APPROXIMATE BIKE TRAIL

MATCHLINE DRAWING B-11B

MATCHLINE DRAWING B-11D

RIVER ROAD

TOWNLINE ROAD

FOREST VIEW AVE. S.

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
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MADISON, WI 53703
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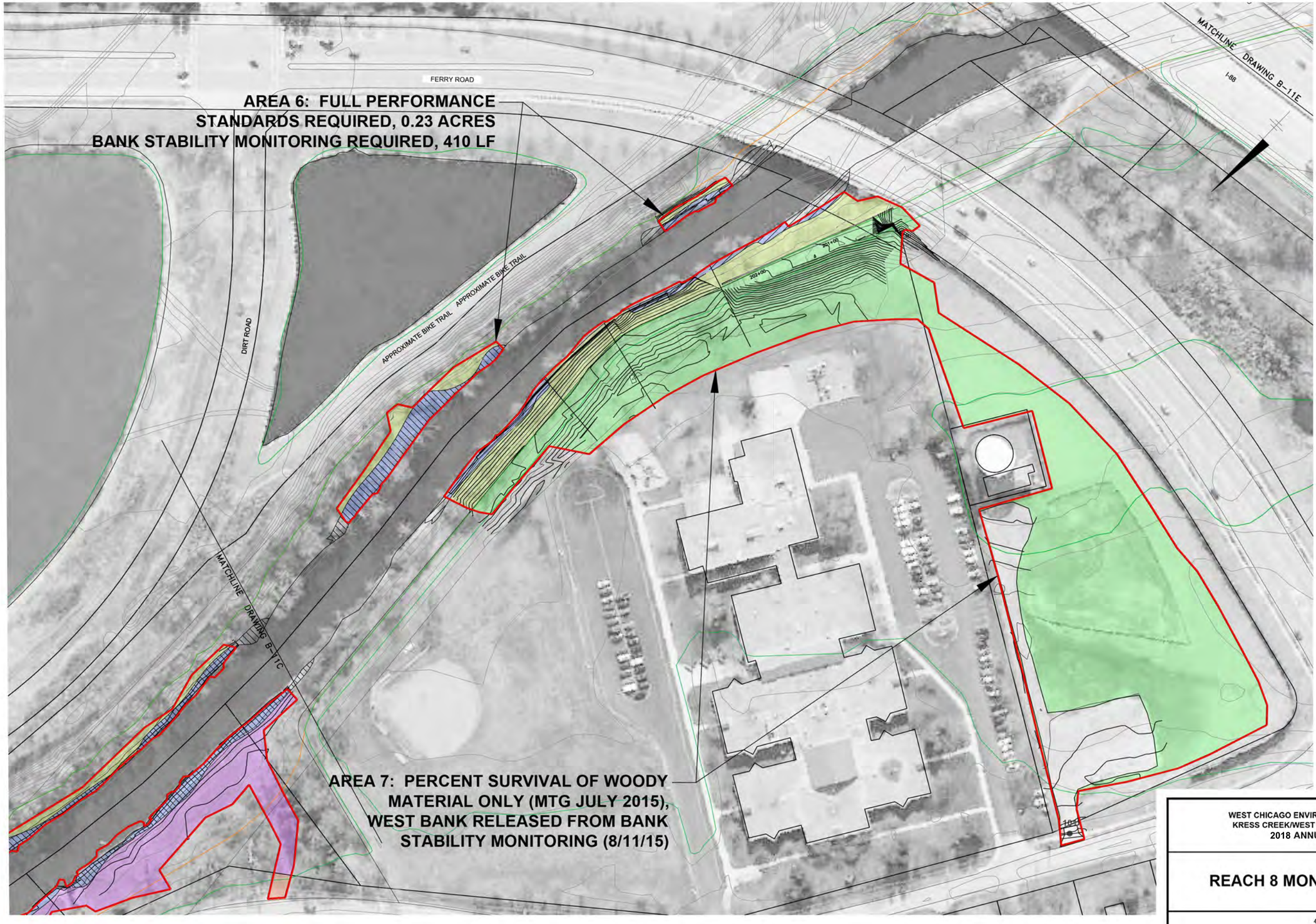
FIGURE
B-11C



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- WETLAND BOUNDARY
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- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
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- AREA SEEDED WITH LAWN SEED MIX PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

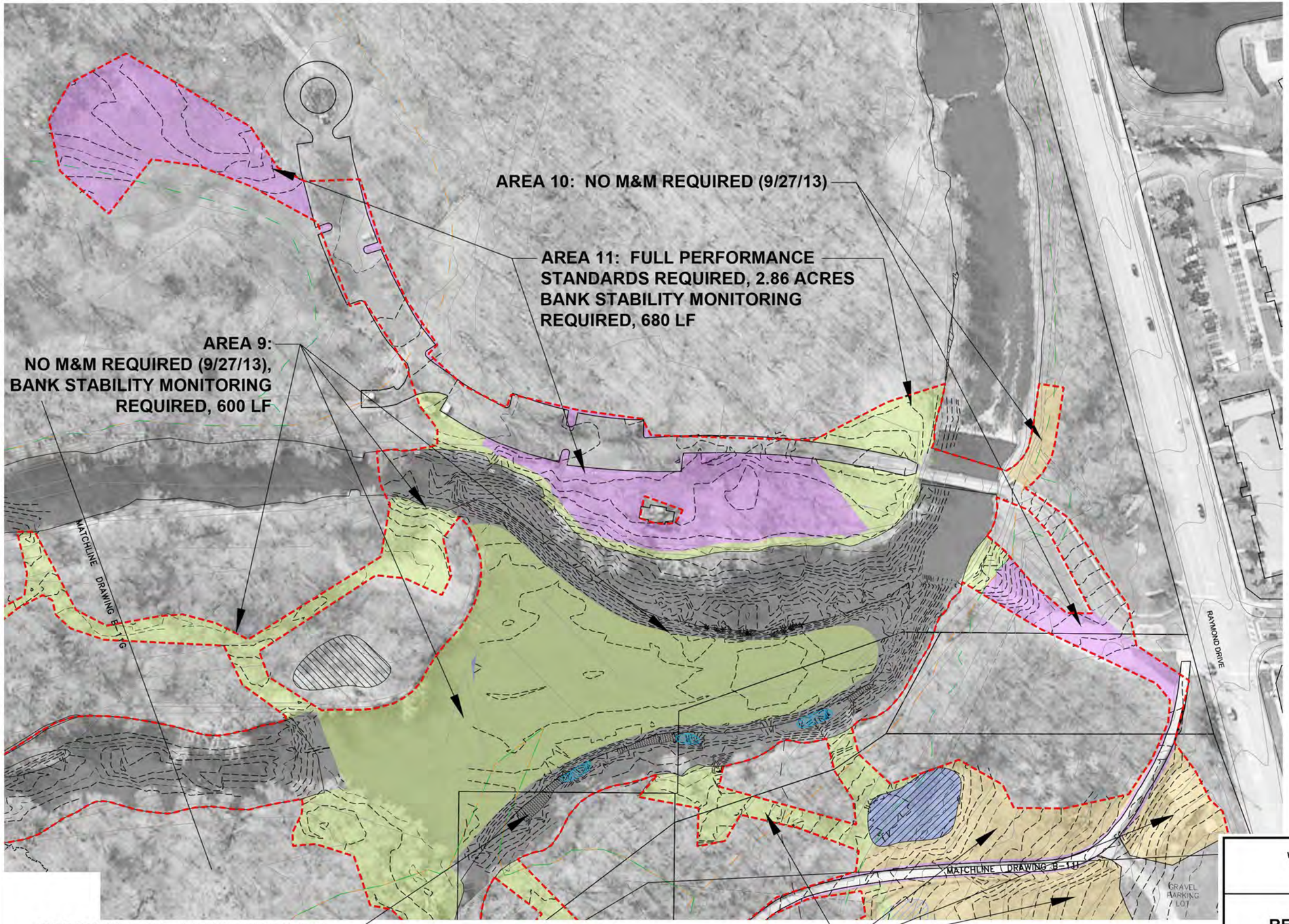
WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11D

EXHIBIT A



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

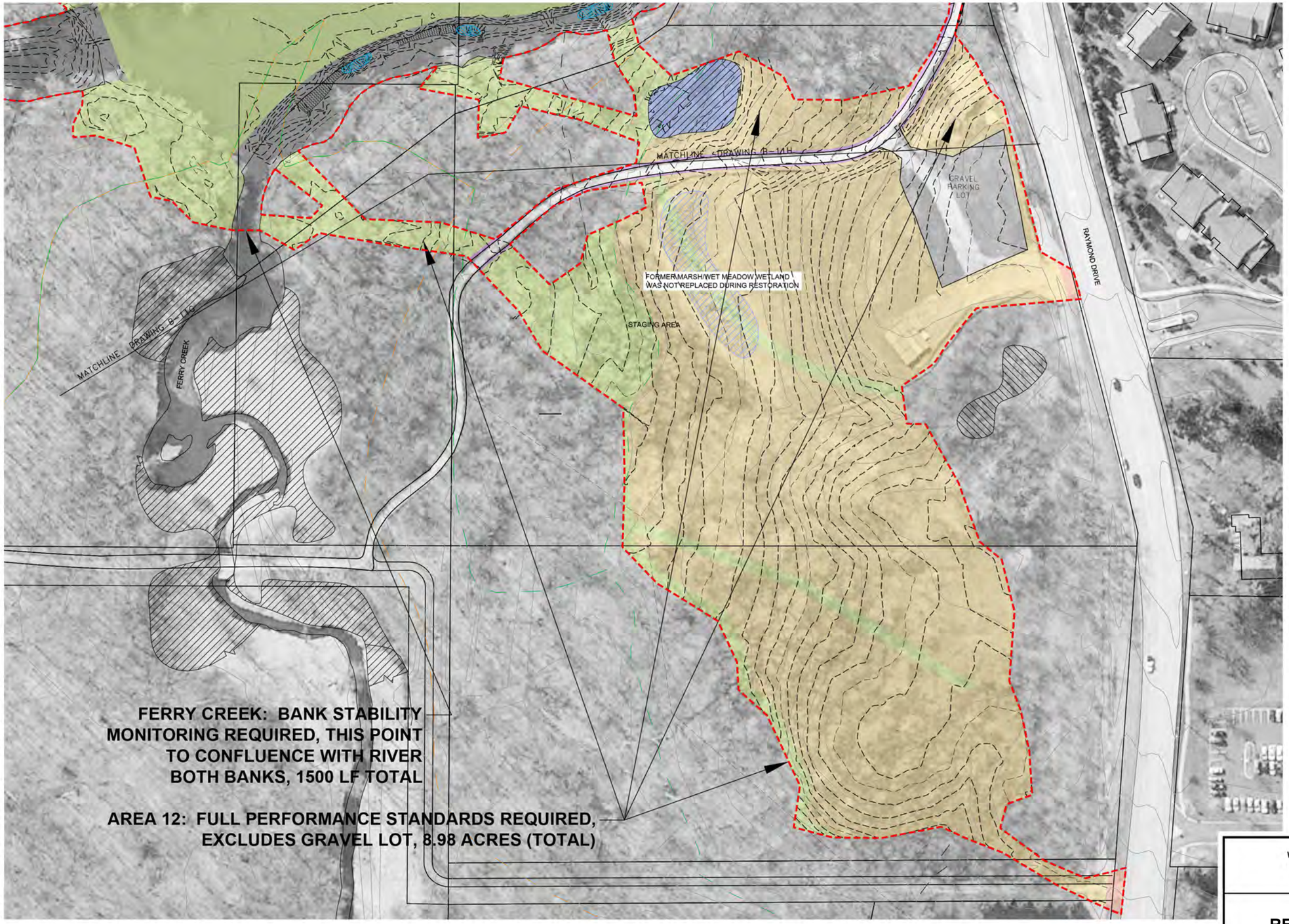
WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11H

EXHIBIT A



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
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- FORESTED WETLAND
- BERM
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- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11I

EXHIBIT A

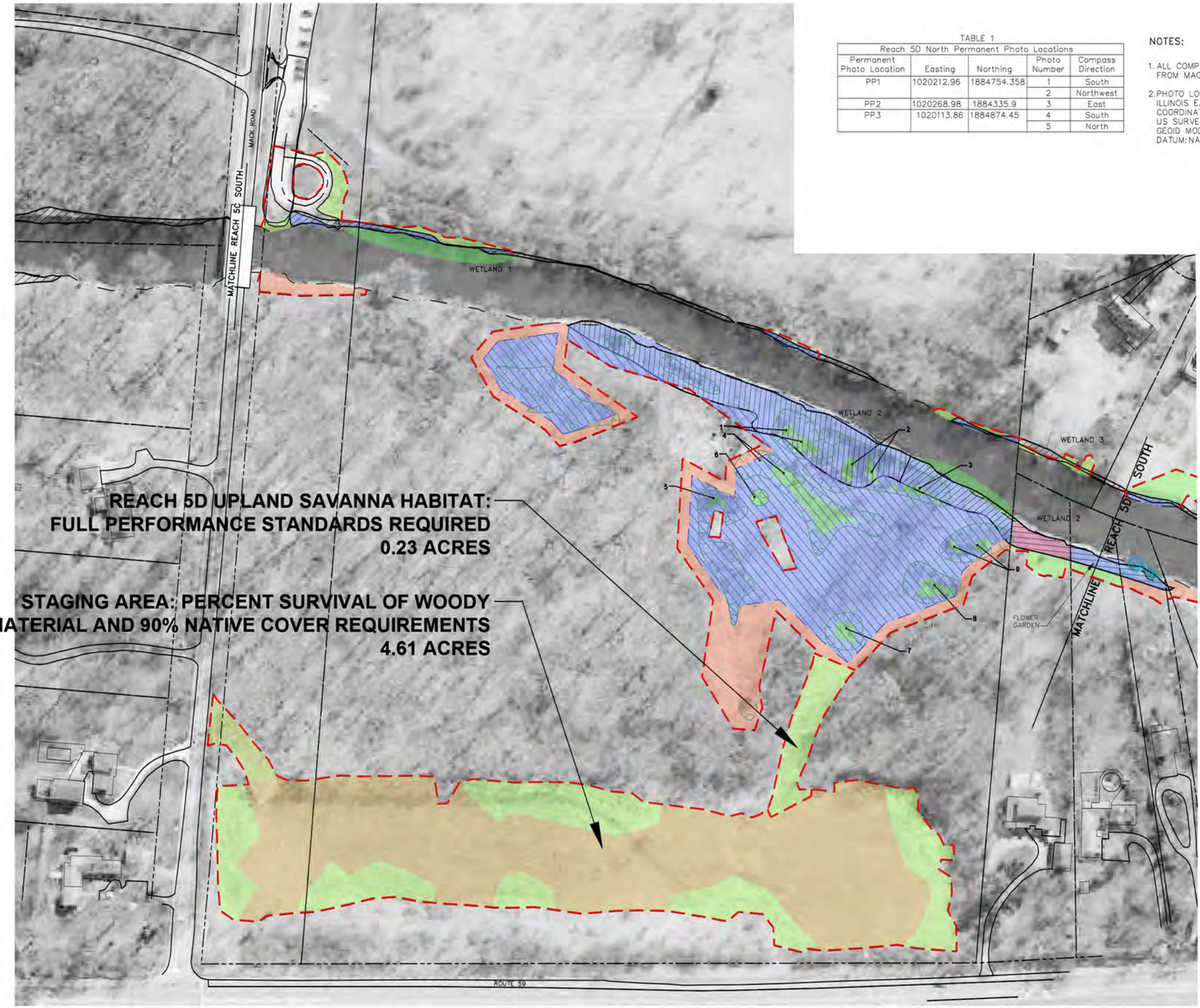


TABLE 1

Reach 5D North Permanent Photo Locations

Permanent Photo Location	Easting	Northing	Photo Number	Compass Direction
PP1	1020212.96	1884754.358	1	South
			2	Northwest
PP2	1020268.98	1884335.9	3	East
PP3	1020113.86	1884874.45	4	South
			5	North

NOTES:

1. ALL COMPASS DIRECTIONS ARE FROM MAGNETIC NORTH.
2. PHOTO LOCATIONS ARE IN THE ILLINOIS EAST STATE PLANE COORDINATE SYSTEM IN UNITS OF US SURVEY FEET. GEOID MODEL: GEOID 96 (CONUS) DATUM: NAD 83

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- APPROXIMATE EDGE OF WATER
- POOL
- RIFFLE
- 8 HOLLOW
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- FORESTED WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED UPLAND SAVANNA AND FERMI LABS SEED
- RESTORED FERMI LABS SEED
- RESTORED WETLAND
- AREA RESTORED WITH PLANT PLUGS
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED BENTGRASS

NOTE:

1. BASE MAP PROVIDED BY KERR-McGEE CHEMICAL LLC (NOW KNOWN AS TRONOX) IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINES WERE DEVELOPED BY ARCADIS FROM SURVEY DATA COLLECTED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI) FOLLOWING COMPLETION OF RESTORATION.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

MACK ROAD MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-6

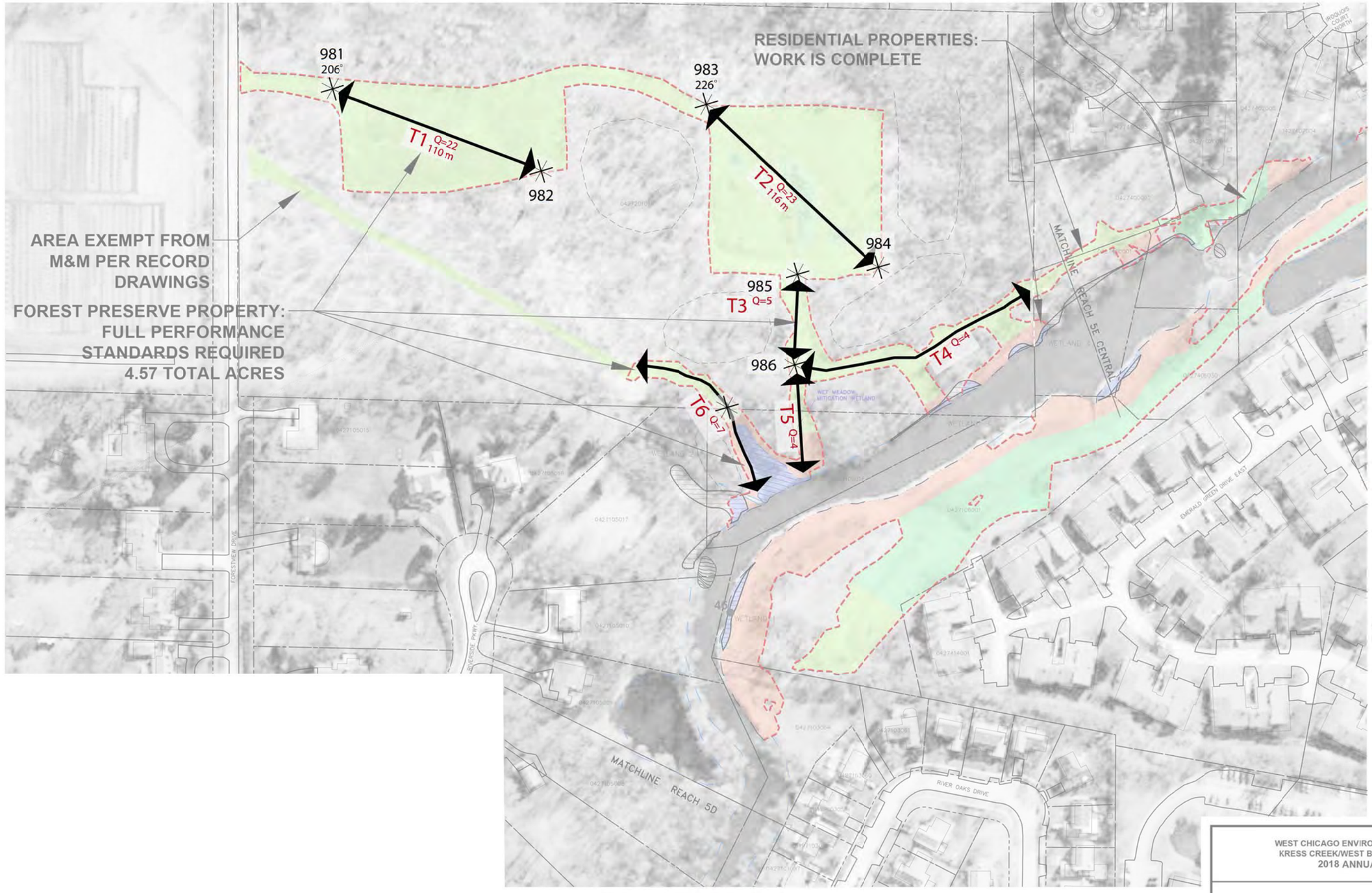
EXHIBIT A

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Exhibit B

Transect & Quadrat Locations



NOTE:

1. BASE MAP PROVIDED BY TRONOX LLC IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINE WERE DEVELOPED BY R.A.SLAND, ROLICK & LEE FROM SURVEY DATA PROVIDED BY PROSOURCE TECHNOLOGIES, INC., NOW KNOWN AS CARLSON PSI, DUPAGE COUNTY, AND TRONOX.

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12A, TRACER NO. B0071030/0000/00026/DWG/71030G10.DWG, DATED 5/21/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 5E MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-1

POD R8-3: FULL PERFORMANCE STANDARDS
REQUIRED (MAY 2014 PROGRESS RPT)
0.14 TOTAL ACRES

POD R8-40: RESIDENTIAL LOTS COMPLETE
(MAY 2014 PROGRESS RPT)

POD R8-40:
PARCEL 04-35-404-013
RELEASED 08-11-2015

961
$T10^{Q=1}$

960
$T10^{Q=2}$

POD R8-4: RESIDENTIAL LOTS COMPLETE
(MAY 2014 PROGRESS RPT)

MATCHLINE REACH 7

MATCHLINE DRAWING B-11B

BATAVIA ROAD

PERMANENT STONE PARKING LOT

MAIN STREET

WARRENVILLE ROAD

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH LAWN SEED PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH PRAIRIE DROPSEED
- SURVEY POINT
- TRANSECT
- Q QUADRAT

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011.
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0 60' 120'
GRAPHIC SCALE

MAP UPDATED: 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11A

EXHIBIT B

AREA 4: FULL PERFORMANCE STANDARDS REQUIRED, 0.35 ACRES
BANK STABILITY MONITORING REQUIRED, 450 LF

AREA 5: FULL PERFORMANCE
STANDARDS REQUIRED, 0.28 ACRES
BANK STABILITY MONITORING REQUIRED, 700 LF

AREA 3: NO M&M REQUIRED (9/27/13)
WEST BANK RELEASED FROM
BANK STABILITY MONITORING
(8/11/15)

974
975
976
977
978
T11 Q=1
T12 Q=7 67 m
T13 Q=6 60 m
RIVER ROAD
TOWNLINE ROAD
FOREST VIEW AVE. S.
MATCHLINE DRAWING B-11B
MATCHLINE DRAWING B-11D

LEGEND:
- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
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- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:
1. BASEMAP PROVIDED BY DUPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

SURVEY POINT
TRANSECT
Q QUADRAT

0 60' 120'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE
B-11C

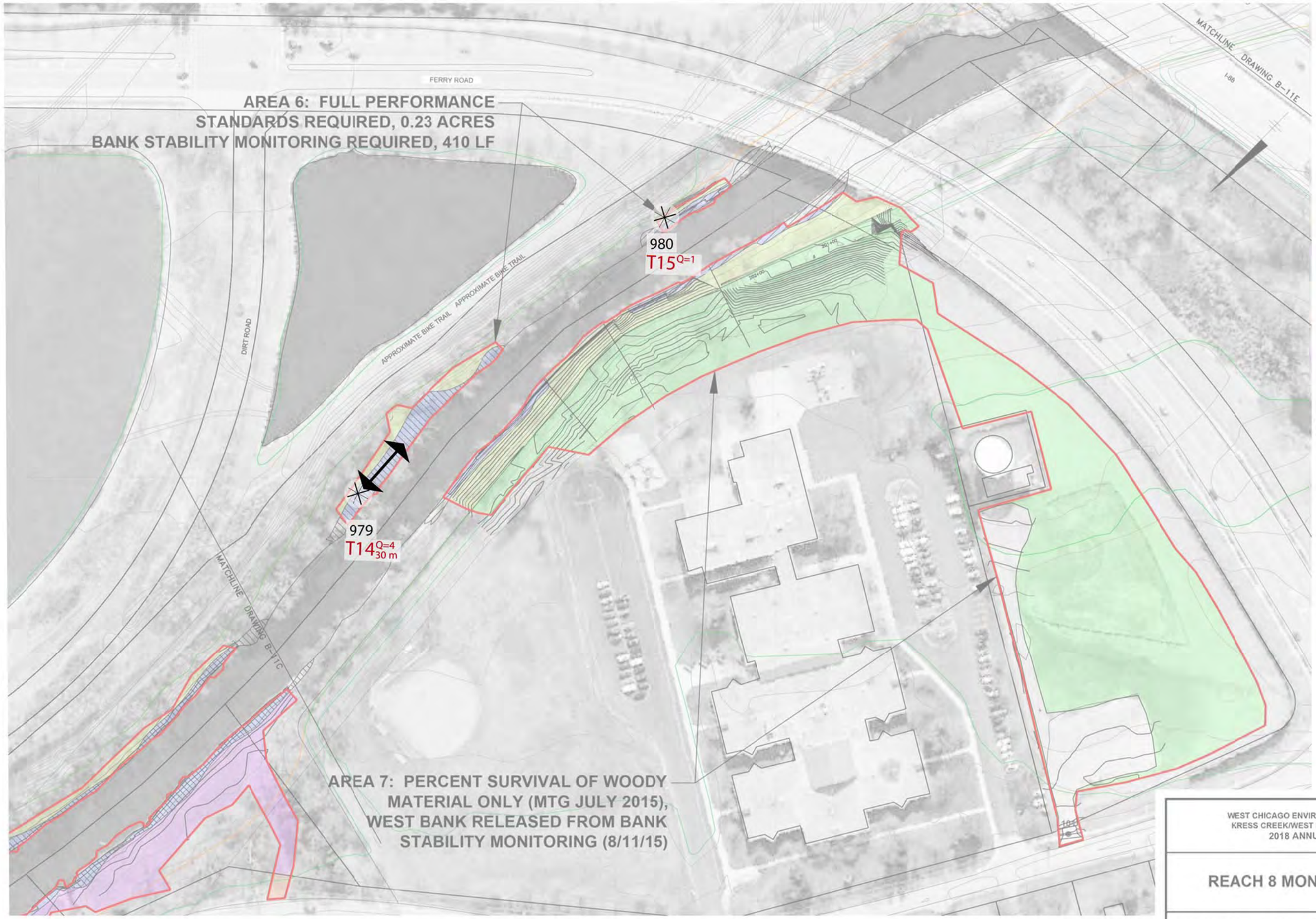


FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

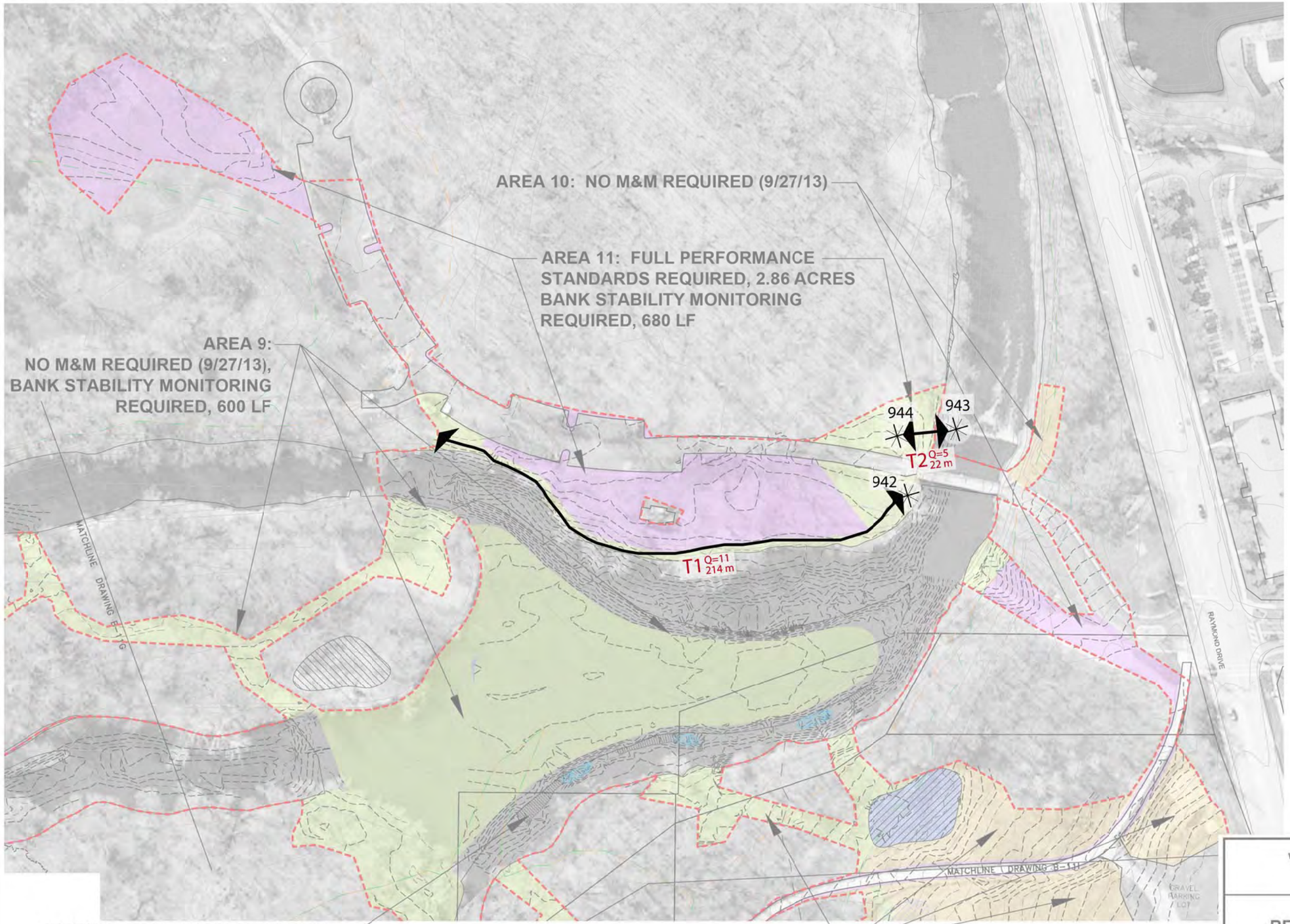
WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE B-11D

EXHIBIT B



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
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- BERM
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- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

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- SURVEY POINT
- TRANSECT
- Q QUADRAT

0 60' 120'
GRAPHIC SCALE

MAP UPDATED: 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE B-11H

EXHIBIT B

952
946
945
344°
948
98°
947
T7 Q=13 102 m
T5 Q=6 45 m
MATCHLINE - DRAWING B-14H
949
352°
953
955
102°
T8 Q=8 62 m
954
951
312°
T6 Q=6 49 m
950
FORMER MARSH/WET MEADOW WETLAND WAS NOT REPLACED DURING RESTORATION
GRAVEL PARKING LOT
RAYMOND DRIVE
MATCHLINE - DRAWING B-14G
FERRY CREEK
T4 Q=31 245 m
T3 Q=35 278 m
957
956

FERRY CREEK: BANK STABILITY MONITORING REQUIRED, THIS POINT TO CONFLUENCE WITH RIVER BOTH BANKS, 1500 LF TOTAL

AREA 12: FULL PERFORMANCE STANDARDS REQUIRED, EXCLUDES GRAVEL LOT, 8.98 ACRES (TOTAL)

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
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- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

- SURVEY POINT
- TRANSECT
- Q QUADRAT

0 60' 120'
GRAPHIC SCALE

MAP UPDATED: 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE
B-11I

EXHIBIT B

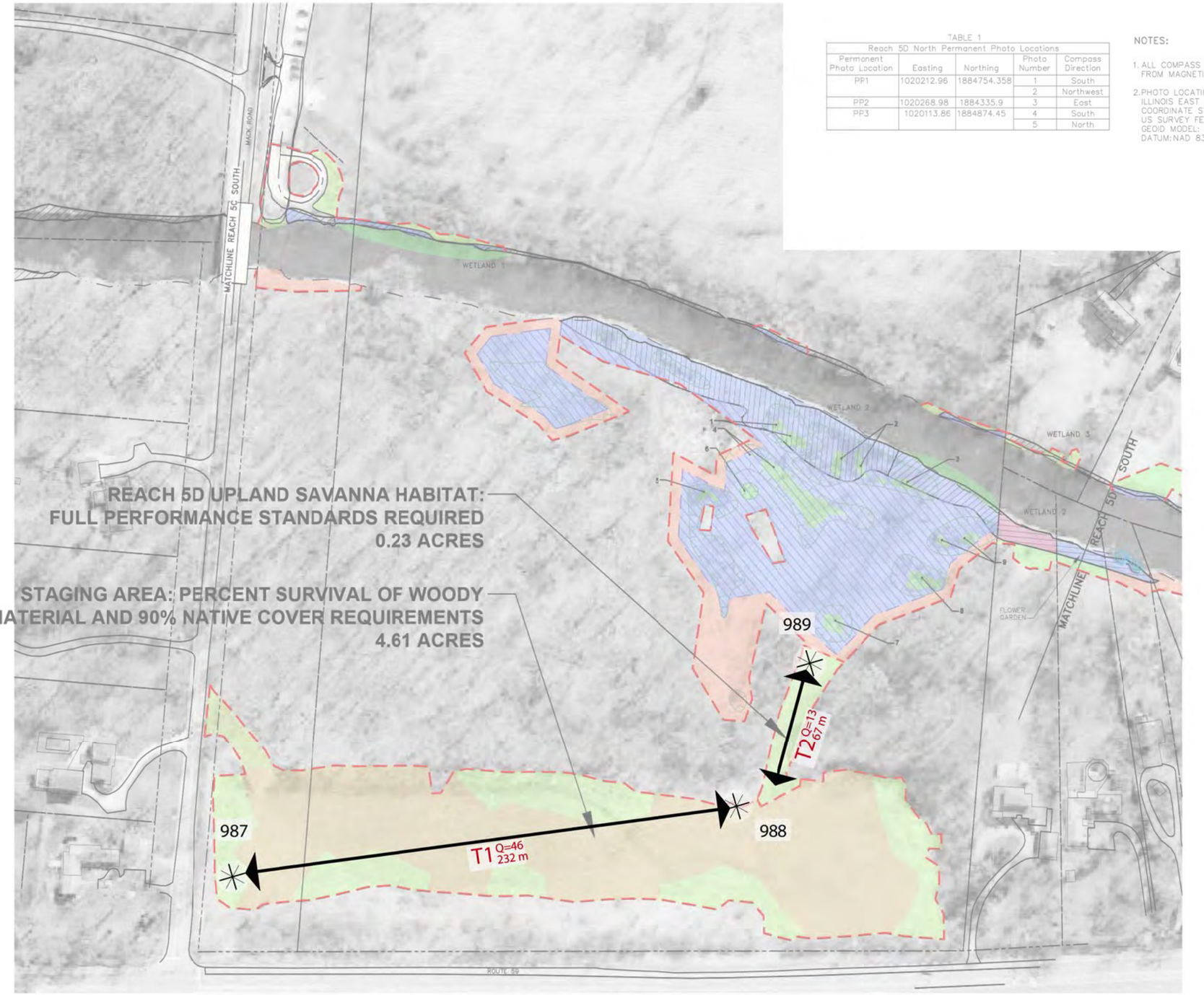


TABLE 1
Reach 5D North Permanent Photo Locations

Permanent Photo Location	Easting	Northing	Photo Number	Compass Direction
PP1	1020212.96	1884754.358	1	South
			2	Northwest
PP2	1020268.98	1884335.9	3	East
PP3	1020113.86	1884874.45	4	South
			5	North

NOTES:

1. ALL COMPASS DIRECTIONS ARE FROM MAGNETIC NORTH.
2. PHOTO LOCATIONS ARE IN THE ILLINOIS EAST STATE PLANE COORDINATE SYSTEM IN UNITS OF US SURVEY FEET. GEOID MODEL: GEOID 96 (CONUS) DATUM: NAD 83

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- APPROXIMATE EDGE OF WATER
- POOL
- RIFFLE
- 8 HOLLOW
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- FORESTED WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED UPLAND SAVANNA AND FERMI LABS SEED
- RESTORED FERMI LABS SEED
- RESTORED WETLAND
- AREA RESTORED WITH PLANT PLUGS
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED BENTGRASS

- SURVEY POINT
- TRANSECT
- Q QUADRAT

NOTE:

1. BASE MAP PROVIDED BY KERR-McGEE CHEMICAL LLC (NOW KNOWN AS TRONOX) IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINES WERE DEVELOPED BY ARCADIS FROM SURVEY DATA COLLECTED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI) FOLLOWING COMPLETION OF RESTORATION.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

MACK ROAD MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-6

EXHIBIT B

2018 Annual Monitoring Report

Reaches 5D, 8, and
the Mack Road Staging Area
of the Kress Creek /

West Branch DuPage River Site

Exhibit C

Tree & Shrub
Survival Diagrams

AT - (1) DEAD 2015

SC - ALL DEAD 2016, 2017

SC - (2) DEAD 2015

CS - (1) MISSING 2015

BN - ALL DEAD, 2015, 2017

COC - (1) MISSING 2015

CS - (1) MISSING 2015

SC - (2) DEAD 2017

AF - (2) DEAD 2017

(1) CEC RECOVERED TO ACCEPTABLE CONDITION, NOTED LEADER DEAD 2015

CM - (2) DEAD 2015

(2) AF LOCATED IN ACCEPTABLE CONDITION, NOTED MISSING IN 2016

RA - ALL DEAD 2015

RELOCATED 2015

CM - (1) MISSING 2018, (1) DEAD 2016

RA - (1) DEAD 2018

VL - (1) DEAD 2018

VL - (1) MISSING 2018

MATCHLINE DRAWING B-11I

LEGEND:

QM TREE REMOVED FROM MONITORING

PA SHRUB REMOVED FROM MONITORING

ACCEPTABLE CONDITION

PLANT DEAD

PLANT MISSING WITHIN ORIGINAL STAKES OR CANNOT BE LOCATED

BRIDGE CONSTRUCTION - REMOVE FROM WCERT MANAGEMENT

PLANT PREVIOUSLY CODED AS UNACCEPTABLE NOTED IN ACCEPTABLE CONDITION DURING 2018

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUP ON AUGUST 21-22, 2018.

0 40' 80'
GRAPHIC SCALE

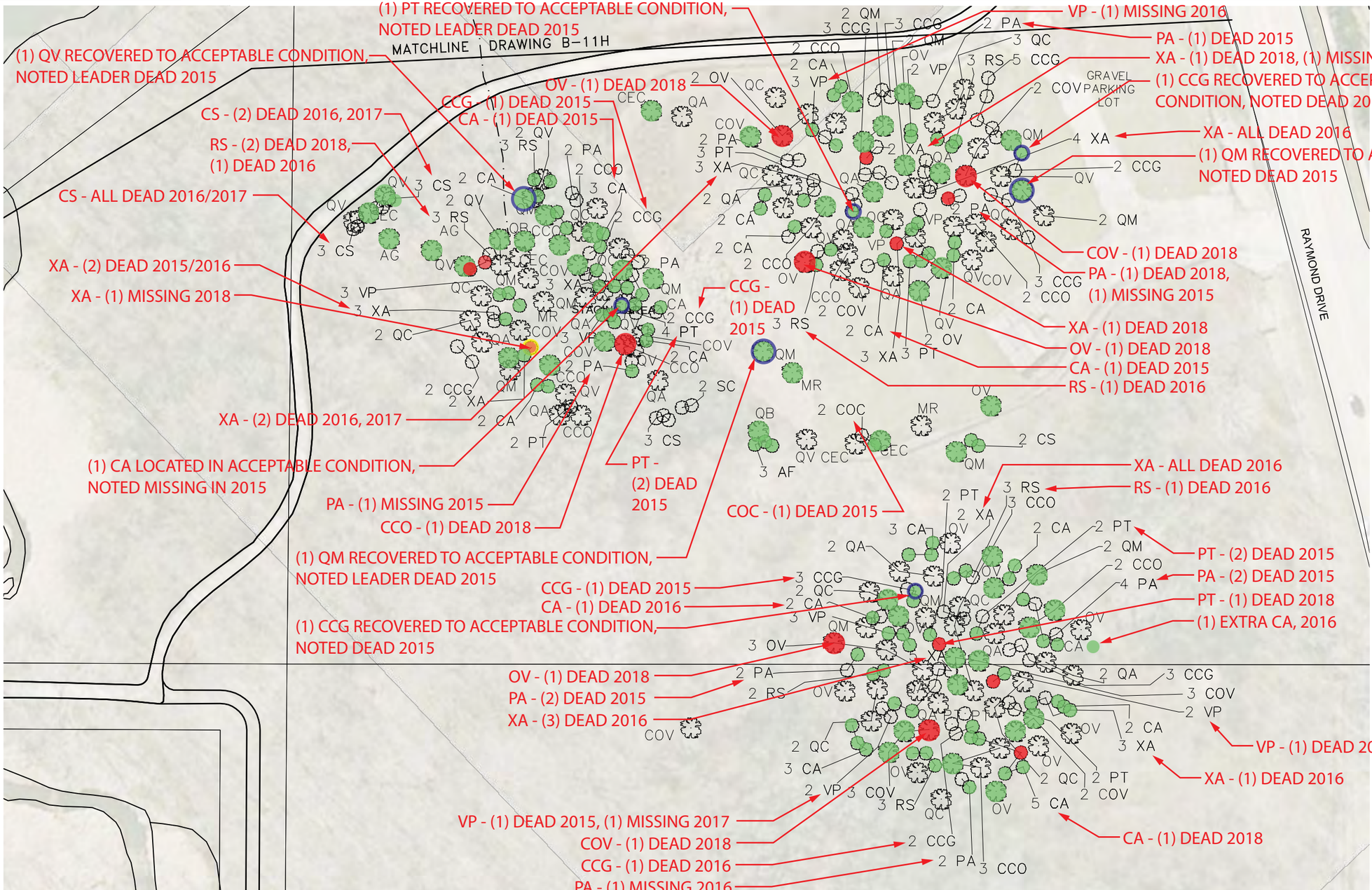
FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8
2018 TREE AND SHRUB MONITORING

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11H T



LEGEND:

- QM — TREE REMOVED FROM MONITORING
- PA — SHRUB REMOVED FROM MONITORING
- ACCEPTABLE CONDITION
- PLANT DEAD
- PLANT MISSING WITHIN ORIGINAL STAKES OR CANNOT BE LOCATED
- PLANT PREVIOUSLY CODED AS UNACCEPTABLE NOTED IN ACCEPTABLE CONDITION DURING 2018

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUP ON AUGUST 21-22, 2018.

0 40' 80'
GRAPHIC SCALE

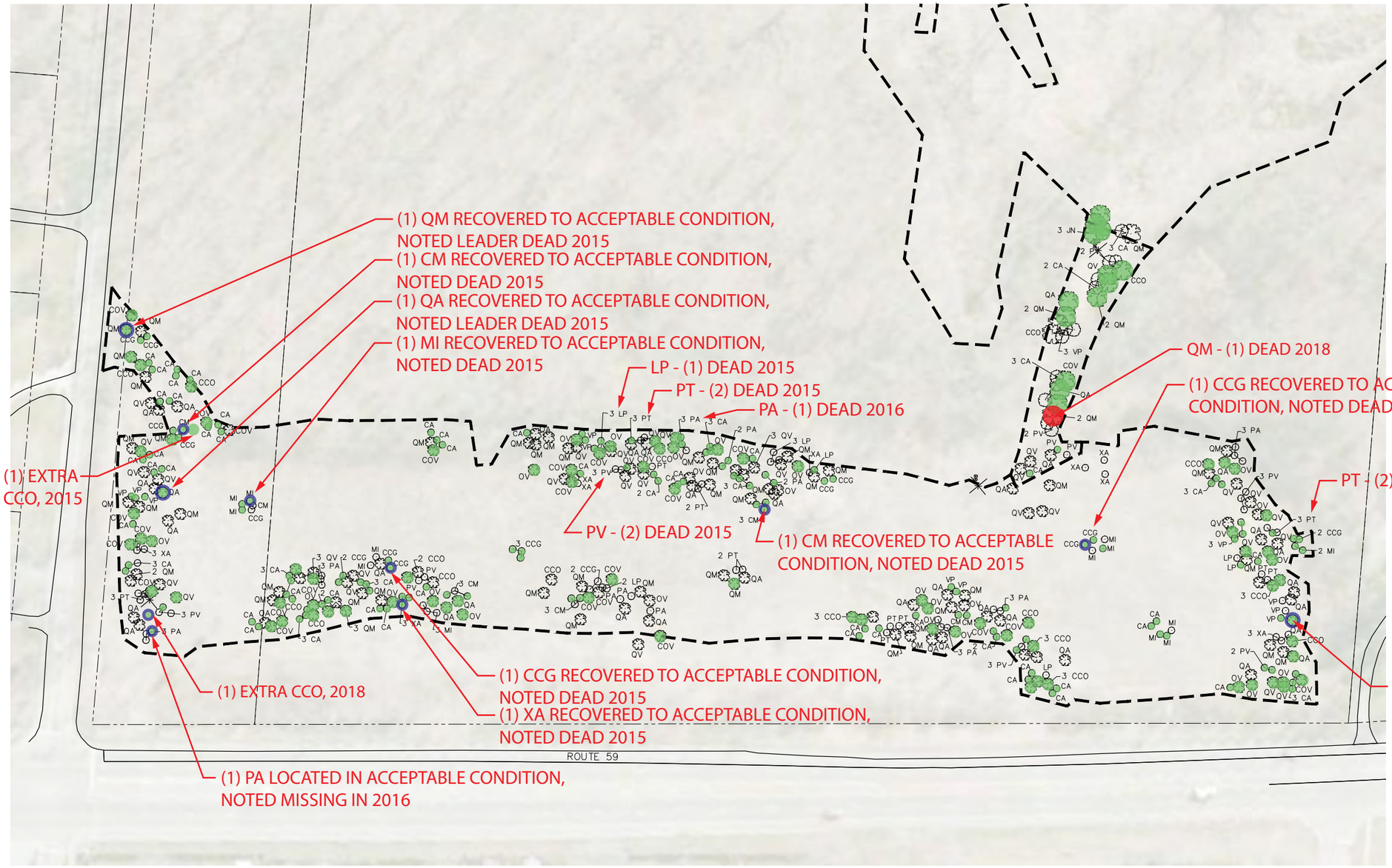
FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8
2018 TREE AND SHRUB MONITORING

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11I T



LEGEND:

- QM — TREE REMOVED FROM MONITORING
- PA — SHRUB REMOVED FROM MONITORING
- ACCEPTABLE CONDITION
- PLANT DEAD
- PLANT MISSING WITHIN ORIGINAL STAKES OR CANNOT BE LOCATED
- PLANT PREVIOUSLY CODED AS UNACCEPTABLE NOTED IN ACCEPTABLE CONDITION DURING 2018

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUP ON AUGUST 21-22, 2018.

0 50' 100'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

MACK ROAD STAGING AREA
2018 TREE AND SHRUB MONITORING

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
12-6 T

EXHIBIT C

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix A

Maintenance and Management Field Reports

WCERT Native Vegetation Management Inspection Report

To:	Deepak Bhojwani (WCERT), Jessie Fink (SmithGroupJJR), Mike Polito (Tallgrass Restoration), Mark O'Leary (AES), and Cecily Cunz (AES)
From:	Bill Stoll (AES)
Project Name:	Kress Creek / West Branch DuPage River
Project Client:	West Chicago Environmental Response Trust (WCERT)
AES Project #:	18-0265
Date:	May 24, 2018

On May 16, I inspected WCERT sites Reach 8b, Areas 11 and 12 (McDowell Grove) and Reach 5e to assess the management work that have been completed so far this spring.

Reach 5E
Site: 4.3 acres mostly savanna restoration with some wetland and floodplain restoration
Previous Management: The Upland Savanna area was herbicided last fall and then tilled with a power rake (4/6) and herbicided (5/1) again this spring. Herbiciding treatments were effective, and site was ready for seeding.
Planned Management: Site was seeded with a modified Upland Prairie/Savanna mix on 5/23.

Reach 8B Area 11
Site: 0.5 acres floodplain management
Previous Treatment: The area was burned on 4/11.
Note: Water level on river was very high from recent heavy rains. Disturbed areas on both sides of the west end of the bridge were seeded, planted, and blanketed.
Planned Management: Area will be over seeded with native grasses and 100 plant plugs will be installed on the floodplain shelf just above the normal water level later this month. Plugs will be installed near and to the west of the shelter.

Reach 8B Area 12
Site: 8.98 acres of mostly prairie and some wetland and floodplain restoration
Previous Treatment: Both stream banks restoration access area were seeded last fall. The area was burned on 4/11.
Note: Water level on the river was very high from recent heavy rains. Both restored bank areas on the north side of the river appear stable.
Planned Management: Bluegrass, thistle, giant ragweed, and Canada goldenrod need to be managed, especially on the north half and southeast portion of the site. Tallgrass plans to herbicide these and other areas by the end of the month.

Sincerely,

William W. Stoll

William W. Stoll
Senior Ecologist / Regional Manager
Applied Ecological Services
120 West Main St.
West Dundee, IL 60118
Office: 847-844-9385
Cell: 773-507-0983
bill@appliedeco.com

Photos

Photo 1. Reach 8 – Area 12, Transect 8. Looking east.

Photo 4. Reach 5E, Transect 1 area. Looking south.

Photo 2. Reach 8 – Area 12, Transect 6. Looking northwest

Photo 5. Reach 5E, Transect 2 area. Looking southwest.

Photo 3. Reach 8 Area 4. Looking south.

Photo 6. Reach 5E, Transect 4 area. Looking southwest toward river.

<END1>

WCERT Native Vegetation Management Inspection Report

To:	Deepak Bhojwani (WCERT), Jessie Fink (SmithGroupJJR), Mike Polito (Tallgrass Restoration), Mark O'Leary (AES), and Cecily Cunz (AES)
From:	Bill Stoll (AES)
Project Name:	Kress Creek / West Branch DuPage River
Project Client:	West Chicago Environmental Response Trust (WCERT)
AES Project #:	18-0265
Date:	August 8, 2018

On August 1, Mike Polito and I inspected all the WCERT sites currently being managed by Tallgrass to assess their condition and determine future management. These include Reach 5D, Reach 5E, Reach 8, Areas 4, 5, 6, 11 & 12, and Pod 8-3.

Reach 8B Area 11 (Photos 1-4)
Site: 0.5 acres floodplain management
Note: Areas on both sides of the east end of the bridge disturbed during the bridge construction were seeded and planted in the spring and have established well. Area south of bridge adjacent to the WCERT managed area was recently mowed.
Management 2018: Area northeast of bridge was burned on 4/11 and then over-seeded with native grasses on 5/10. 100 plant plugs were also installed on the floodplain shelf just above the normal water level on June 26. Plugs were installed near and west of the shelter. Clover, thistle, and Reed Canary Grass (RCG) were spot herbicided on 5/29, 7/2, and 7/30. Giant ragweed was also spot mowed on 7/2.
Assessment and Recommendations: Native cover is very good throughout. Cut giant ragweed and silver maple saplings in area northeast of bridge.

Reach 8B Area 12 (Photos 5-16)
Site: 8.98 acres of mostly prairie and some wetland and floodplain restoration
Previous Management: Both stream banks restoration access routes were seeded last fall.
Note: The staging area along Raymond Drive was seeded in the spring and has established well. Areas outside WCERT management near T7 & T8 (southeast of trail) were recently mowed.
Management 2018:

- The area north and west of the path was burned on 4/11.

- Bluegrass, thistle, giant ragweed, and Canada goldenrod and other weeds were spot herbicided or mowed on 5/29, especially on the north half and southeast portion of the site.
- Clover, thistle, and RCG were spot treated, *Phragmites* was wicked, and ragweed and Queen Anne's Lace was mowed on 7/30.

Assessment and Recommendations: The site is dominated by native grasses and forbs in most locations and looks great.

- Spot mow giant and common ragweed, annual grasses, Queen Anne's lace, and sweet clover and hand wick Canada goldenrod in the southeast portion of the site (T6, T7 & T8). Also spot herbicide *Plantago* sp. and clover in these areas.
- Mow common ragweed and sweet clover in rest of the area.
- Restored shoreline areas also look great. A patch of giant ragweed in the western (downstream) restoration area will be cut.

Reach 8A Area 6 (Photo 17)
Site: 0.23 acres wetland and floodplain restoration
Management 2018: RCG and other weeds were herbicided on 5/31, and purple loosestrife and other weeds were treated on 7/3 and 7/31.
Assessment and recommendations: Site appears to have improved since last year. Cut and remove honeysuckle and riverbank grape. Pull bindweed and herbicide purple loosestrife. Plugs survivorship is very good, and they were watered the day after our inspection last week.

Reach 8A Area 5 (Photo 18)
Site: 0.28 acres wetland and floodplain restoration
Management 2018: RCG and other weeds were herbicided on 5/31, and purple loosestrife and other weeds were treated on 7/3 and 7/31.
Assessment and recommendations: Site has improved since last year. Plugs survivorship is very good, and they were watered the day after our inspection last week. Bindweed will be pulled and box elder and honeysuckle will be cut and removed.

Reach 8A Area 4 (Photo 19)
Site: 0.35 acres wetland and floodplain restoration.
Management 2018: RCG and other weeds were spot herbicided on 6/8, purple loosestrife, RCG, and other weeds were herbicided on 7/3 and 7/31.
Assessment and recommendation: Native cover has improved greatly this year. Many patches of RCG have been killed and these areas may need to be fill in with plugs next spring. This will be re-assessed later in the season.

Reach 8 Pod R8-3
Site: 0.14 acres woodland and river bank management.
Management 2018: Giant ragweed was spot mowed along the river and orchard grass was spot herbicided along the woods in the spring, and giant ragweed and foxtail were mowed on 7/31.
Assessment and recommendations: Site condition has improved. Jewelweed dominates the east end of the woodland edge. Mow giant ragweed again and seed woods with silky rye in the fall.

Reach 5E (Photos 20-22)
Site: 4.3 acres mostly savanna restoration with some wetland and floodplain restoration
Previous Management: The Upland Savanna area was herbicided last fall and then tilled with a power rake (4/6) and herbicided (5/1) again this spring, and then seeded with a modified Upland Prairie/Savanna mix on 5/23.

Management 2018: This site has been mowed twice (6/27 and 8/2) and spot herbicided twice (7/3 and 7/31) prior to the 2nd mowing. RCG was also herbicided along the river.
Assessment and recommendation: The reseeded area is very well vegetated (>95%) and is dominated by foxtail, common ragweed, wild rye, hairy cup grass, and orchard grass. In addition to wild rye, a few other native grasses were found on the site, including big bluestem, little bluestem, and switch grass. The site will be checked and spot herbicided again this season, if needed.

Reach 5D (Mack Road) (Photo 23)
Site: 0.23 acres savanna restoration
Management 2018: The site was spot herbicided and 1100 native plant plugs were installed on 5/22. The site was spot mowed and spot herbicided again on 7/3.
Assessment and recommendation: Hairy cup grass (*Eriochloa villosa*) and other weedy species had been recently cut and herbicided (7/31). Most of site is very well vegetated and native cover is increasing. The west end (~20 ft.) is dominated by non-native cool season grasses (e.g. Kentucky bluegrass), most of which had been herbicided recently. This area will be reassessed next month, and a course of action will be decided upon.

Photos


Photo 1. Reach 8, Area 11. DuPage River in McDowell Grove west of shelter, looking east.


Photo 3. Reach 8, Area 11. South side of east end of bridge in McDowell Grove.


Photo 2. Reach 8, Area 11. DuPage River in McDowell Grove from bridge, looking northeast.


Photo 4. Reach 8, Area 11. Mowed area south side of east end of bridge in McDowell Grove.

Photo 5. Reach 8, Area 12. McDowell Grove, south side of trail, looking east.

Photo 8. Reach 8, Area 12. Stream bank repair area #1 on Ferry Creek, looking west.

Photo 6. Reach 8, Area 12. McDowell Grove, south side of trail near T5, looking east.

Photo 9. Reach 8, Area 12. McDowell Grove, T7 south side of trail, looking west.

Photo 7. Reach 8, Area 12. Access route to stream bank repair area #1 on Ferry Creek, looking north.

Photo 10. Reach 8, Area 12. Access route to stream bank repair area #2 on Ferry Creek (T8), looking west.

Photo 11. Reach 8, Area 12. Stream bank repair area #2 on Ferry Creek (T8), looking south.

Photo 12. Reach 8, Area 12. McDowell Grove, T6 northwest side of trail, looking northwest.

Photo 13. Reach 8, Area 12. McDowell Grove, main area north and west of trail (near T4), looking north.

Photo 14. Reach 8, Area 12. McDowell Grove, main area north and west of trail (near T3), looking south.

Photo 15. Reach 8, Area 12. McDowell Grove, main area north and west of trail (near T3), looking north.

Photo 16. Reach 8, Area 12. McDowell Grove, main area north and west of trail (near T3), looking east.

Photo 17. Reach 8, Area 6, looking north.

Photo 20. Reach 5E. North savanna area (T1), looking northeast.

Photo 18. Reach 8, Area 5, looking north.

Photo 21. Reach 5E. South savanna area (T2), looking southwest.

Photo 19. Reach 8, Area 4, looking north.

<END2>

From: William W. Stoll
Sent: Tuesday, July 03, 2018 3:01 PM
To: Bhojwani, Deepak
Cc: Mike Polito; Mark J. O'Leary; Cecily M. Cunz
Subject: FW: WCERT - Reach 8 Ferry Creek stabilization

Deepak – See Mike's update below. In short, we mowed the access routes a few days after the local communities walked the site. I'm available until 5:00 today to discuss or anytime after 10:00 on Thursday or Friday.

Mike – I would recommend scheduling another mowing for next week, and then plan to spot herbicide later in the season. I would hold off on over-seeding.

Bill

From: Mike Polito [mailto:Mike.Polito@tallgrassrestoration.com]
Sent: Thursday, June 28, 2018 8:00 AM
To: William W. Stoll
Subject: RE: WCERT - Reach 8 Ferry Creek stabilization

Hi Bill,

I looked through our records for WCERT work, and this year we've been through the access routes twice. On 5/29 the crew used herbicide to treat invasives in the area, and on 6/8 a crew spot-mowed ragweed. So the ragweed concern was addressed very shortly afterward her observation, though the perennial weed species are likely still an issue at this point in time. We have another stewardship wave coming next month through all WCERT units, though if I had to forecast it, I would say that it's unlikely to occur until the week after next. If you think it is advisable for the sake of keeping the peace, I can personally visit the access routes with some herbicide before the 4th to tackle the invasives. I also have about 8 oz of a low-growing prairie seed mix left over from another job; I could throw that down with a bunch of oat seeds to try and quickly fill in the bare spots she observed. Though it's possible they have started to fill in at this point, 3 weeks and a bunch of rainfall later.

Mike

From: William W. Stoll [mailto:bill@appliedeco.com]
Sent: Wednesday, June 27, 2018 9:07 PM
To: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Subject: Fwd: WCERT - Reach 8 Ferry Creek stabilization

Mike - Could you please confirm the work you guys have done this year in locations discussed below. I'm on vacation and can't access my notes easily.

Thx. Bill

Sent from my iPhone

Begin forwarded message:

From: "William W. Stoll" <bill@appliedeco.com<mailto:bill@appliedeco.com>>
Date: June 27, 2018 at 8:58:41 PM CDT
To: "Bhojwani, Deepak"
<Deepak.Bhojwani@WestonSolutions.com<mailto:Deepak.Bhojwani@WestonSolutions.com>>
Cc: "Mark J. O'Leary" <mark.oleary@appliedeco.com<mailto:mark.oleary@appliedeco.com>>
Subject: Re: WCERT - Reach 8 Ferry Creek stabilization

Deepak- We are aware of the condition of the access routes to stream bank repairs sites. These areas were seeded last fall. Tallgrass has mowed these areas at least once this season per our recommendation. I could discuss tomorrow mid/late afternoon or Friday AM -or when I return from vacation.

Bill

Sent from my iPhone

On Jun 27, 2018, at 1:35 PM, Bhojwani, Deepak
<Deepak.Bhojwani@WestonSolutions.com<mailto:Deepak.Bhojwani@WestonSolutions.com>> wrote:

Let's discuss Jamie's email, at your earliest convenience.

Regards,

Deepak L. Bhojwani
Senior Program Manager
(847) 942-2856 (Cell)

From: Lock, Jamie [mailto:Jamie.Lock@dupageco.org]
Sent: Wednesday, June 27, 2018 1:22 PM
To: Bhojwani, Deepak
<Deepak.Bhojwani@WestonSolutions.com<mailto:Deepak.Bhojwani@WestonSolutions.com>>
Cc: Charlton, Anthony <Charlton@dupageco.org<mailto:Charlton@dupageco.org>>
Subject: WCERT - Reach 8 Ferry Creek stabilization

Deepak:

On June 5, the Local Communities walked the area in Reach 8 where Ferry Creek stabilization work was completed last year by WCERT's contractor ENCAP. As required per the agreements, the streambank stabilization appears to have held up during a bankfull event, which qualifies the work for signoff. Please note, however, that during our inspection, we noticed several bare spots in the restored access areas.

We also noticed a large presence of ragweed and other invasives. The bare spots and removal of the ragweed and other invasives will need to be addressed ASAP. I have attached a few pictures for your reference. Please do not hesitate to contact me with any questions.

Thanks,

Jamie C. Lock, P.E., CFM
Project Engineer

DuPage County Stormwater Management
421 N. County Farm Rd.
Wheaton, IL 60187
Direct: 630.407.6705 Cell: 630.417.2212
Jamie.Lock@dupageco.org<mailto:Jamie.Lock@dupageco.org><mailto:Jamie.Lock@dupageco.org>

<IMG_1525.jpg>
<IMG_1521.jpg>

Disclaimer

<END3>

From: William W. Stoll
Sent: Friday, June 08, 2018 10:29 PM
To: 'Mike Polito'
Cc: Mark J. O'Leary
Subject: RE: available species from Genesis

Mike – Please go ahead and use my recommended (highlighted) species for the plugs for the Reach 8A areas. We just go the verbal OK from Deepak. Watch for a follow up email to him.

Bill

From: William W. Stoll
Sent: Friday, June 08, 2018 10:29 PM
To: 'Mike Polito'
Cc: Mark J. O'Leary
Subject: RE: available species from Genesis

Mike – Any of the highlighted species will work.

Mark – Feel free to add or subtract.

Bill

From: Mike Polito [mailto:Mike.Polito@tallgrassrestoration.com]
Sent: Friday, June 08, 2018 9:23 AM
To: William W. Stoll
Subject: available species from Genesis

Hi Bill,

We've been working with a few nurseries this season, but Genesis has been pretty responsive and helpful, as well as providing some good looking plants. Here is the list of what's available that might be of interest to us for Reach 5 and 6:

Acorus americanus
Boltonia asteroides
Calamagrostis canadensis
Carex bebbii
Carex comosa
Carex crinita
Carex cristatella
Carex hystericina
Carex lurida
Carex scoparia
Carex stipata
Carex vulpinoidea
Elymus virginicus
Eutrochium maculatum
Glyceria striata
Helenium autumnale
HIbiscus moscheutos
Iris virginica shrevei
Juncus effusus
Justicia americana
Liatris spicata
Lobelia cardinalis
Lobelia siphilitica
Lythrum alatum
Mentha arvensis
Mimulus ringens
Oligoneuron riddellii
Penthorum sedoides

Physostegia virginiana
Rudbeckia laciniata
Saururus cernuus
Scirpus acutus
Scirpus atrovirens
Scirpus cyperinus
Scirpus pendulus
Scirpus pungens
Scirpus validus
Silphium perfoliatum
Symphyotrichum novae-angliae
Verbena hastata

A good selection of sedges, looks like cord grass is missing though.

Mike Polito
Tallgrass Restoration, LLC
2221 Hammond Drive
Schaumburg, IL 60173
P – (847) 925-9830
C – (847) 847-9958
F – (847) 925-9840

Mike.Polito@tallgrassrestoration.com
www.tallgrassrestoration.com
<END4>

From: William W. Stoll
Sent: Wednesday, June 27, 2018 8:59 PM
To: Bhojwani, Deepak
Cc: Mark J. O'Leary
Subject:Re: WCERT - Reach 8 Ferry Creek stabilization

Deepak- We are aware of the condition of the access routes to stream bank repairs sites. These areas were seeded last fall. Tallgrass has mowed these areas at least once this season per our recommendation. I could discuss tomorrow mid/late afternoon or Friday AM -or when I return from vacation.

Bill

Sent from my iPhone

> On Jun 27, 2018, at 1:35 PM, Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com> wrote:
>
> Let's discuss Jamie's email, at your earliest convenience.
>
> Regards,
>
> Deepak L. Bhojwani
> Senior Program Manager
> (847) 942-2856 (Cell)
>
> From: Lock, Jamie [mailto:Jamie.Lock@dupageco.org]
> Sent: Wednesday, June 27, 2018 1:22 PM
> To: Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com>
> Cc: Charlton, Anthony <Charlton@dupageco.org>
> Subject: WCERT - Reach 8 Ferry Creek stabilization
>
> Deepak:
>
> On June 5, the Local Communities walked the area in Reach 8 where Ferry Creek stabilization work was completed last year by WCERT's contractor ENCAP. As required per the agreements, the streambank stabilization appears to have held up during a bankfull event, which qualifies the work for signoff. Please note, however, that during our inspection, we noticed several bare spots in the restored access areas. We also noticed a large presence of ragweed and other invasives. The bare spots and removal of the ragweed and other invasives will need to be addressed ASAP. I have attached a few pictures for your reference. Please do not hesitate to contact me with any questions.
>
> Thanks,
>
> Jamie C. Lock, P.E., CFM
> Project Engineer
>
> DuPage County Stormwater Management
> 421 N. County Farm Rd.
> Wheaton, IL 60187

> Direct: 630.407.6705 Cell: 630.417.2212
> Jamie.Lock@dupageco.org<mailto:Jamie.Lock@dupageco.org>
>
> WARNING: External Email: This email originated outside of Weston Solutions. DO NOT CLICK on any links or attachments unless you recognize the sender and are expecting the email.
> CONFIDENTIALITY: This email and attachments may contain information which is confidential and proprietary. Disclosure or use of any such confidential or proprietary information without the written permission of Weston Solutions, Inc. is strictly prohibited. If you received this email in error, please notify the sender by return e-mail and delete this email from your system. Thank you.
> <IMG_1525.jpg>
> <IMG_1521.jpg>
<END5>

From: William W. Stoll
Sent: Wednesday, June 13, 2018 10:54 AM
To: Bhojwani, Deepak
Cc: Mark J. O'Leary; Cecily M. Cunz; Mike Polito
Subject: RE: WCERT management recommendations

Deepak – Thanks for the call. I reviewed the species we are recommending for the plugs in Reach 8A, Areas 5&6, and nearly all are on the seed mixes for those sites (Open Floodplain Seed Mix and Wetland Seed Mix) and those that are not are appropriate for the setting.

Mike – Please send us a quote for these additional plugs.

Thanks,
Bill

From: William W. Stoll
Sent: Tuesday, June 12, 2018 5:14 PM
To: 'Bhojwani, Deepak'
Cc: Mark J. O'Leary; Cecily M. Cunz; Mike Polito; Jessie Fink
Subject: RE: WCERT management recommendations

Deepak – All the recommendations below, except for the additional plugs in Reach 8A Areas 5&6, are in Tallgrass' current budget. Mike P. – Please confirm this.

The additional plus (w/ watering) may be ~$15,000, and Mike is going provide a quote for them tomorrow.

I'm available to discuss at 10:00 tomorrow.

Bill

From: Bhojwani, Deepak [mailto:Deepak.Bhojwani@WestonSolutions.com]
Sent: Tuesday, June 12, 2018 4:04 PM
To: William W. Stoll
Cc: Mark J. O'Leary; Cecily M. Cunz; Mike Polito; Jessie Fink
Subject: RE: WCERT management recommendations

Bill,

I am assuming your management recommendations are not in our established budget. Is there a good time tomorrow morning we can discuss the issue below? Please let me know.

Regards,

Deepak

From: William W. Stoll [mailto:bill@appliedeco.com]
Sent: Tuesday, June 12, 2018 11:49 AM
To: Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com>
Cc: Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>; Mike Polito <Mike.Polito@tallgrassrestoration.com>; Jessie Fink <Jessie.Fink@smithgroupjjr.com>
Subject: WCERT management recommendations

Deepak – Good to finally meet you last week.

As you know, we conducted our spring monitoring of the WCERT sites last Wednesday and Thursday. Below are our recommendations. Note that we are recommending additional plugs at a couple sites along river (Reach 8A Areas 5&6) and a rough cost estimate is provided below.

Reach 5D – Looks great. Spot herbicide bluegrass and tall fescue at W end; burn this fall or next spring.
Pod8-3 – Mow tall ragweed by river ASAP; spot herb orchard grass along woods; add more silky rye seed in killed areas.
Reach 5E – Very little germination of seeded species (even cover crop) observed, little growth in narrow areas; Mow seeded area in next 2 weeks at 8-10"; mow rather than spot herb sweet clover in future.
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Reach 8B Area 12 – S&E of path – mow seeded access route (T8) to streambank repair area – lots of tall ragweed; spot herbicide tall ragweed, Canada goldenrod, RCG, and thistle in T7 & T8 areas. N&W of path – mow sweet clover and spot herbicide bluegrass and other non-native cool season grasses.
Reach 8B Area 11 – Spot herb Canada goldenrod (including area S of bridge), cut and treat silver maple (and other weedy tree) saplings; install plugs on streambank shelf as planned.

Cost estimate for additional plugs: Reach 8A Area 5&6 = 0.51 acres. I estimate approximately ¼ of the area of these 2 sites was killed off. This is 5,500 ft2 – which would be ~1500 plugs at 2ft OC. At $8.25 a plug = $12,375 plus watering (~$2000) =< $15,000.

I sent these recommendations to Mike Polito on Friday, and he is already planning this work. Mike – Please provide an update.

Thanks,
Bill

William W. Stoll
Regional Manager / Senior Ecologist

Applied Ecological Services, Inc.
<End6>

From: **William W. Stoll**
Sent: **Tuesday, June 12, 2018 5:14 PM**
To: **Bhojwani, Deepak**
Cc: **Mark J. O'Leary; Cecily M. Cunz; Mike Polito; Jessie Fink**
Subject: **RE: WCERT management recommendations**

Deepak – All the recommendations below, except for the additional plugs in Reach 8A Areas 5&6, are in Tallgrass' current budget. Mike P. – Please confirm this.

The additional plus (w/ watering) may be ~$15,000, and Mike is going provide a quote for them tomorrow.

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Bill

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Sent: Tuesday, June 12, 2018 4:04 PM
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Cc: Mark J. O'Leary; Cecily M. Cunz; Mike Polito; Jessie Fink
Subject: RE: WCERT management recommendations

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Regards,

Deepak

From: William W. Stoll [mailto:bill@appliedeco.com]
Sent: Tuesday, June 12, 2018 11:49 AM
To: Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com>
Cc: Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>; Mike Polito <Mike.Polito@tallgrassrestoration.com>; Jessie Fink <Jessie.Fink@smithgroupjjr.com>
Subject: WCERT management recommendations

Deepak – Good to finally meet you last week.

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Cost estimate for additional plugs: Reach 8A Area 5&6 = 0.51 acres. I estimate approximately ¼ of the area of these 2 sites was killed off. This is 5,500 ft2 – which would be ~1500 plugs at 2ft OC. At $8.25 a plug = $12,375 plus watering (~$2000) =< $15,000.

I sent these recommendations to Mike Polito on Friday, and he is already planning this work. Mike – Please provide an update.

Thanks,
Bill

William W. Stoll
Regional Manager / Senior Ecologist

Applied Ecological Services, Inc.
120 W. Main St.
West Dundee, IL 60118
847-844-9385 (o)
773-507-0983 (m)

<END7>

From: William W. Stoll
Sent: Thursday, September 20, 2018 4:23 PM
To: 'Bhojwani, Deepak'; 'Mike Polito'
Cc: Mark J. O'Leary; Cecily M. Cunz; 'Jessie Fink'
Subject:RE: WCERT site inspection

Mike - As we discussed yesterday, we have decided NOT to mow Reach 5E again this season. After discussing the site with Mark and Will, we agree with your suggestion to burn it next spring and then we suggest mowing it several times next season.

Other management recommendations from our monitoring trip are added in red to our recommendations below.

Thanks,
Bill

From: William W. Stoll
Sent: Monday, September 17, 2018 5:25 PM
To: 'Bhojwani, Deepak' <Deepak.Bhojwani@WestonSolutions.com>
Cc: Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>; 'Jessie Fink' <Jessie.Fink@smithgroupjjr.com>; 'Mike Polito' <Mike.Polito@tallgrassrestoration.com>
Subject: RE: WCERT site inspection

Deepak – Below are the management recommendations I have discussed with Tallgrass, based our site inspection from last week.

Reach 8B, Area 11: Control Canada goldenrod. Also, spot herbicide Kentucky blue grass on S side of bridge (T2). FPD continues to drive through the E end of this area to access their property further south along the east side of the river. I will contact them about this.
Reach 8B, Area 12: Control Canada goldenrod around Transects 3,4,5 & 6. Spot herbicide or cut cocklebur, woody re-sprouts, and other weeds in the two stream banks restoration areas. Include these areas in management plans next year. Cut and spot herbicide buckthorn and honeysuckle at the far N end of Area 12.
Reach 8A, Area 4: Remove more bindweed. Install native wetland plugs next spring in bare areas created from herbiciding reed canary grass. Spot herbicide purple loosestrife in Areas 4&6.
Reach 8A, Area 5: Remove more box elder, buckthorn, and honeysuckle in narrowest areas. Spot herbicide a couple patches of moneywort S of entrance.
Reach 8A, Area 6: Cut and remove box elder and green ash at south end of site.
Reach 8A, Pod R8-3: Seed woods with silky rye this fall. Spot herbicide orchard grass and smooth brome at far W end of woods before reseeding. Remove climbing false buckwheat from vegetation along river.
Reach 5D (Mack Rd): West end (~20 ft.) needs to be blanket herbicided and seeded next spring after a follow up herbicide treatment. Tilling the area before the 2nd treatment may be helpful.
Reach 5E: ~~Mow site again as high as the mower deck allows (>6"). ~~Site dominated by yellow foxtail (annual weed) with a few natives scattered throughout. Burn area next spring.

We will be on site tomorrow and Wednesday.

Bill

From: William W. Stoll
Sent: Friday, September 14, 2018 4:30 PM
To: 'Bhojwani, Deepak' <Deepak.Bhojwani@WestonSolutions.com>
Cc: Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>; Jessie Fink <Jessie.Fink@smithgroupjjr.com>; Mike Polito <Mike.Polito@tallgrassrestoration.com>
Subject: RE: WCERT site inspection

Will do. Thanks Deepak.

Bill

From: Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com>
Sent: Friday, September 14, 2018 3:33 PM
To: William W. Stoll <bill@appliedeco.com>
Cc: Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>; Jessie Fink <Jessie.Fink@smithgroupjjr.com>; Mike Polito <Mike.Polito@tallgrassrestoration.com>; Matthew C. Parsons <matt.parsons@appliedeco.com>
Subject: RE: WCERT site inspection

Bill,

This is an add-on to my previous email. Just make sure you go through DuPage County. Since Jamie is on maternity leave, please go through Jenna Fahey.

Regards,

Deepak

From: William W. Stoll [mailto:bill@appliedeco.com]
Sent: Friday, September 14, 2018 9:52 AM
To: Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com>
Cc: Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>; Jessie Fink <Jessie.Fink@smithgroupjjr.com>; Mike Polito <Mike.Polito@tallgrassrestoration.com>; Matthew C. Parsons <matt.parsons@appliedeco.com>
Subject: WCERT site inspection

Deepak – We inspected the WCERT sites on Wednesday, and I have a few items I'd like to bring to your attention.

It appears that FPD has mowed parts of Area 12 in McDowell Grove between the trail and the creek. While doing this, they mowed into Transect 7 & 8 areas. We should to let them know this and ask them to avoid it in the future. Would you like me to contact them or would you like to?

Also, we inspected the two stream bank restorations areas in McDowell Grove again. They are well vegetated and appear very stable. We will be recommending sign off for these areas this year but believe the vegetation should be managed as long as we are managing Area 12 in McDowell Grove to prevent weeds from encroaching. The areas are very small, and Tallgrass could include them in their proposal for next year.

I have provided management recommendations to Tallgrass from our inspection and will share those with you soon.

Also, we will be conducting our quantitative vegetation monitoring (transects) next Tuesday and Wednesday.

All the best,
Bill

William W. Stoll
Senior Ecologist / Regional Manager
Applied Ecological Service, Inc.
120 W. Main St.
West Dundee, IL 60118
847-844-9385 (o)
773-507-0983 (m)

<END8>

From: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Sent: Friday, July 06, 2018 3:23 PM
To: William W. Stoll
Subject:RE: WCERT spot treatment

Hi Bill,

Looking at the crew's report, in the access routes ("fingers", as they wrote) they mowed down the ragweed again on 7/2, and also spot treated for weeds like thistle and RCG. Should be looking alright out there at this point in time.

Mike

From: William W. Stoll [mailto:bill@appliedeco.com]
Sent: Friday, July 6, 2018 7:22 AM
To: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Subject: RE: WCERT spot treatment

Thanks for the update Mike. So, for the access routes to the streambank treatments in Reach 8, Area 12, did you spot treat again or mow? I didn't email you my recommendations on these areas until Tues afternoon.

Bill

From: Mike Polito [mailto:Mike.Polito@tallgrassrestoration.com]
Sent: Monday, July 02, 2018 8:07 AM
To: Jessie Fink; William W. Stoll; Bhojwani, Deepak
Cc: Mark J. O'Leary; Cecily M. Cunz
Subject: WCERT spot treatment

Hello everyone,

Mike Polito with Tallgrass Restoration here. We have a crew making another pass through Reach 5d, Reach 5e, Pod R8-3, and Reach 8, areas 4, 5, 6, 11 and 12 today and tomorrow. This may require another day or two beyond that, but for now we have them scheduled for today and tomorrow to see what we can get through. I will keep the group posted as to where we get, and what we still have left.

If you have any questions please let me know, otherwise have a good one!

Mike

Mike Polito
Tallgrass Restoration, LLC
2221 Hammond Drive
Schaumburg, IL 60173 <END9>

From: William W. Stoll
Sent: Tuesday, June 12, 2018 11:49 AM
To: 'Bhojwani, Deepak'
Cc: Mark J. O'Leary; Cecily M. Cunz; Mike Polito; Jessie Fink
Subject: WCERT management recommendations

Deepak – Good to finally meet you last week.

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I sent these recommendations to Mike Polito on Friday, and he is already planning this work. Mike – Please provide an update.

Thanks,
Bill

William W. Stoll
Regional Manager / Senior Ecologist

Applied Ecological Services, Inc.
120 W. Main St.
West Dundee, IL 60118
847-844-9385 (o)
773-507-0983 (m)
<END10>
From: Connor Nett <Connor.Nett@smithgroup.com>

Sent: Wednesday, June 06, 2018 8:42 AM
To: Mike Polito; Jessie Fink; William W. Stoll; Bhojwani, Deepak
Cc: Cecily M. Cunz
Subject: WCERT Tree Staking Field Report
Attachments: RPT 2018_0606_Field Report SGJJR.pdf

Good Morning,

On Monday June 4, Mike Polito and I walked Reach 8 and Mack Road to flag vegetation that required stake removal or stake resetting. In addition to stake resetting noted during 2017 monitoring, approximately 12 plants require stakes to be reset. Please see the attached field observation report for more detail.

Mike, the final page of the field notes includes the planting schedule abbreviations for your crew's convenience.

Please let me know if you have any questions or comments.

Best,

Connor Nett
Site Designer
……

SmithGroupJJR
44 East Mifflin Street, Suite 500
Madison, WI 53703

t 608.251.1177 **d** 608.327.4451
f 734.780.8427

Connor.Nett@smithgroupjjr.com

End11

FIELD OBSERVATION REPORT

Project name: Kress Creek / West Branch DuPage River Site
West Chicago Environmental Response Trust (WCERT)

Project number: 10110.000

Location: Reach 8 and Mack Road Staging Area

Date: June 4, 2018
Issue date: June 6, 2018

Participants: Connor Nett, SmithGroupJJR

Weather: Sunny, temperature in 70's

Distribution:
Jessie Fink, SmithGroupJJR
Deepak Bhojwani, WCERT
Mark O'Leary / Cecily Cunz / Bill Stoll, Applied Ecological Services
Mike Polito, Tall Grass Restoration

Notes:
Connor Nett met with Mike Polito to flag vegetation that required stakes to be reset, and removal of stakes based on 2017 Tree and Shrub Monitoring. Yellow flagging was used for stakes that required removal. Orange flagging was used for vegetation that needed stakes, or stakes to be reset. During the site walkthrough, several trees and shrubs were identified as requiring stakes to be reset in addition to those noted during the 2017 Tree and Shrub Monitoring. Flood debris, growth of vegetation, and additional weathering appeared to contribute to the change in staking conditions. Approximately twelve additional trees and shrubs require stakes to be reset.

Within Reach 8 along the DuPage River, several of the tree trunks are becoming too large for the corrugated plastic trunk protection. Larger tubing or looser chicken wire fencing is required to protect the trees from beavers and girdling.

Tallgrass stated that vegetation staking and trunk protection is likely to occur during a rain day in the coming weeks. See attached plan diagrams for field notes.

Respectfully submitted,

Connor Nett

Connor Nett, Landscape Designer
SmithGroupJJR

Our summarization of this Field Observation Report is transcribed as above. Please notify the writer within five (5) business days of this transcription of any disagreement as the foregoing becomes part of the project record and is the basis upon which we will proceed.

Remove Debris

Remove Staking from Dead SC

Needs Stakes & Cut Grapevine

Reset Stakes after Construction

Reset Stakes after Construction, Remove Grapevine

MATCHLINE DRAWING B-11I

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- QM TREE LOCATION PER RECORD DRAWING
- PA SHRUB LOCATION PER RECORD DRAWING
- NEEDS STAKES
- RESET STAKES
- REMOVE STAKES
- MONITORING NOT REQUIRED

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUPJJR ON SEPTEMBER 6-7, 2017.

0 40' 80'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2017 ANNUAL MONITORING

REACH 8
2017 TREE AND SHRUB MONITORING

SMITHGROUPJJR
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11H T

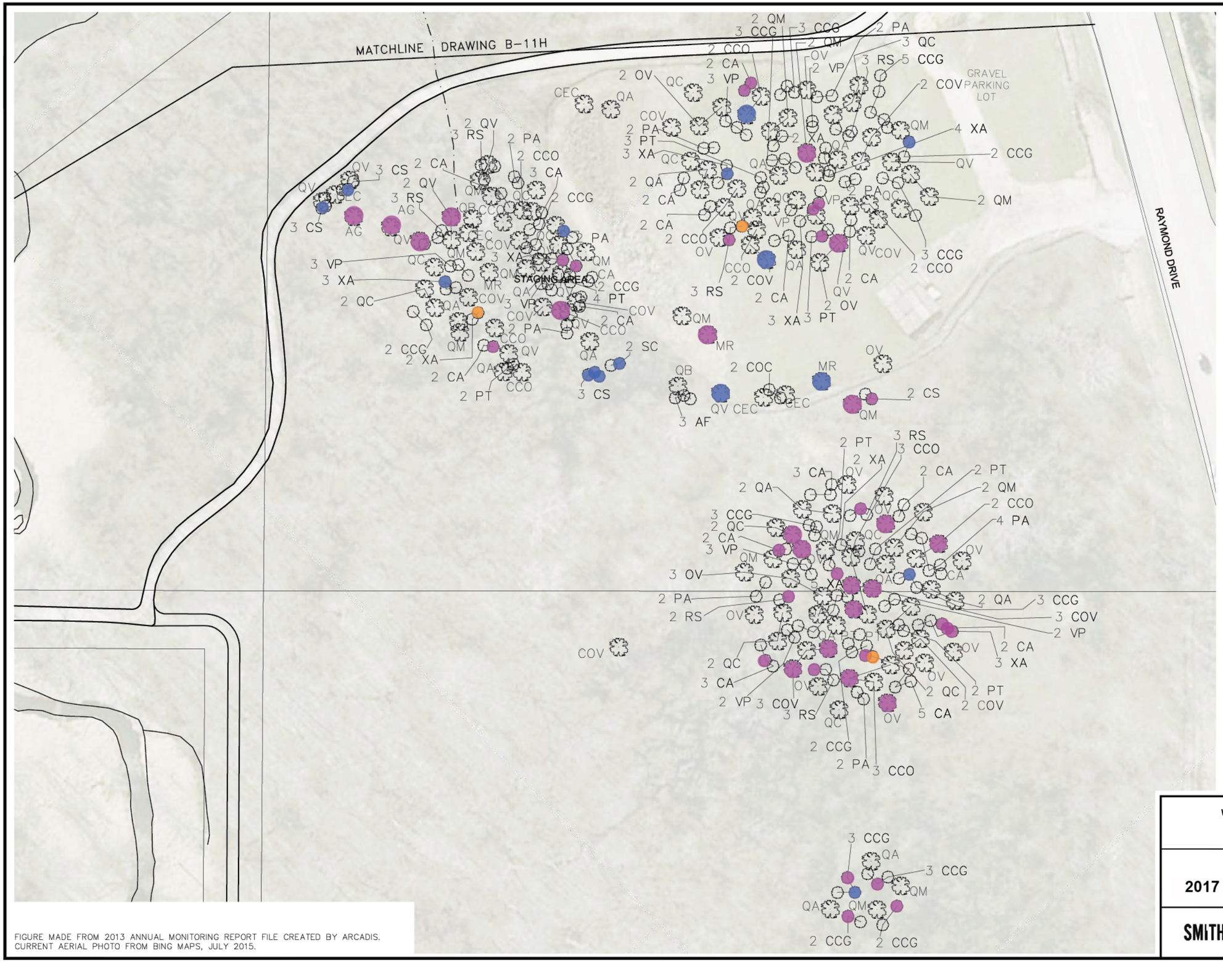

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2017 ANNUAL MONITORING

REACH 8
2017 TREE AND SHRUB MONITORING

SMITHGROUPJJR
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11I T

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- QM — TREE LOCATION PER RECORD DRAWING
- PA — SHRUB LOCATION PER RECORD DRAWING
- NEEDS STAKES
- RESET STAKES
- REMOVE STAKES
- MONITORING NOT REQUIRED

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUPJJR ON SEPTEMBER 6-7, 2017.

0 50' 100'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2017 ANNUAL MONITORING

MACK ROAD STAGING AREA
2017 TREE AND SHRUB MONITORING

SMITHGROUPJJR
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
12-6 T

Mack Road

Symbol	Scientific Name	Common Name
CA	Corylus americana	American Hazelnut
CCG	Crataegus crus-gali	Cockspur Hawthorn
CM	Crataegus mollis	Downy Hawthorn
LP	Lonicera prolifera	Yellow Honeysuckle
MI	Malus ioensis	Iowa Crabapple
PA	Prunus americana	Wild Plum
PV	Prunus virginiana	Choke Cherry
PT	Ptelea trifolitata	Wafer Ash
VP	Viburnum prunifolium	Blackhaw
XA	Xanthoxylum americanum	Prickly Ash

Symbol	Scientific Name	Common Name
CCO	Carya cordiformis	Bitternut Hickory
COV	Carya ovata	Shagbark Hickory
JN	Juglans nigra	Black Walnut
OV	Ostrya virginiana	Hophornbeam
QA	Quercus alba	White Oak
QM	Quercus macrocarpa	Bur Oak
QV	Quercus velutina	Black Oak

Reach 8

Symbol	Scientific Name	Common Name
AF	Amorpha fruiticosa	Indigo bush
COC	Cepholanthus occidentalis	Buttonbush
CS	Cornus stolonifera	Red Osier Dogwood
CA	Corylus americana	American Hazelnut
CCG	Crataegus crus-gali	Cockspur Hawthorn
CM	Crataegus mollis	Downy Hawthorn
PA	Prunus americana	Wild Plum
PT	Ptelea trifolitata	Wafer Ash
RA	Ribes americanum	Wild Black Currant
RS	Rosa setigera	Illinois Rose
SD	Salix discolor	Pussy Willow
SC	Sambucus canadensis	Common elderberry
VL	Viburnum lentago	Nannyberry
VP	Viburnum prunifolium	Blackhaw
XA	Xanthoylum americanum	Prickly Ash

Symbol	Scientific Name	Common Name
AG	Aesculus glabra	Ohio Buckeye
AT	Asimina triloba	PawPaw
BN	Betula nigra	River Birch
CAR	Carpinus caroliniana	Bluebeech
CCO	Carya cordiformis	Bitternut Hickory
COV	Carya ovata	Shagbark Hickory
CO	Celtis occidentalis	Hackberry
CEC	Cercis canadensis	Eastern Redbud
JN	Juglans nigra	Black Walnut
MR	Morus rubra	Red Mulberry
OV	Ostrya virginiana	Ironwood
PO	Platanus occidentalis	Sycamore
QA	Quercus alba	White Oak
QB	Quercus bicolor	Swamp White Oak
QC	Quercus coccinea	Scarlet Oak
QM	Quercus macrocarpa	Bur Oak
QV	Quercus velutina	Black Oak
SN	Salix nigra	Black Willow

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix B

Vascular Plant Inventory Data

SITE: WCERT
LOCALE: Reach 8A
BY: MO, WO, MP, WS
NOTES: 6/6/2018 & 9/18/2018

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.19	SPECIES RICHNESS (ALL)	164
MEAN C (ALL SPECIES)	2.30	SPECIES RICHNESS (NATIVE)	118
MEAN C (NATIVE TREES)	2.78	% NON-NATIVE	0.28
MEAN C (NATIVE SHRUBS)	3.57	WET INDICATOR (ALL)	-0.13
MEAN C (NATIVE HERBACEOUS)	3.23	WET INDICATOR (NATIVE)	-0.47
FQAI (NATIVE SPECIES)	34.71	% HYDROPHYTE (MIDWEST)	0.65
FQAI (ALL SPECIES)	29.44	% NATIVE PERENNIAL	0.57
ADJUSTED FQAI	27.10	% NATIVE ANNUAL	0.14
% C VALUE 0	0.41	% ANNUAL	0.20
% C VALUE 1-3	0.23	% PERENNIAL	0.76
% C VALUE 4-6	0.29		
% C VALUE 7-10	0.07		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	FACU	1	Forb	Annual	Native
aceneg	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
acesai	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	FACW	-1	Tree	Perennial	Native
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
agralb	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	FACW	-1	Grass	Perennial	Adventive
alisub	Alisma subcordatum	Alisma subcordatum	American Water-Plantain	3	OBL	OBL	-2	Forb	Perennial	Native
allpet	Alliaria petiolata	ALLIARIA PETIOLATA	Garlic-Mustard	0	FAC	FACU	0	Forb	Biennial	Adventive
amaret	Amaranthus retroflexus	AMARANTHUS RETROFLEXUS	Red-Root	0	FACU	FACU	1	Forb	Annual	Adventive
amatub	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	OBL	-2	Forb	Annual	Native
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	FAC	0	Forb	Annual	Native
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
anecan	Anemone canadensis	Anemone canadensis	Round-Leaf Thimbleweed	4	FACW	FACW	-1	Forb	Perennial	Native
apocan	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
ARCMIN	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	FACU	1	Forb	Biennial	Adventive
artvul	Artemisia vulgaris	ARTEMISIA VULGARIS	Common Mugwort	0	UPL	UPL	2	Forb	Perennial	Adventive
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
bidcer	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	OBL	-2	Forb	Annual	Native
bidfro	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
calcan	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	OBL	-2	Grass	Perennial	Native
consep	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	FAC	0	Forb	Perennial	Native
CAPBUR	Capsella bursa-pastoris	CAPSELLA BURSA-PASTORIS	Shepherd's-Purse	0	FACU	FACU	1	Forb	Annual	Adventive
cxbebb	Carex bebbii	Carex bebbii	Bebb's Sedge	8	OBL	OBL	-2	Sedge	Perennial	Native
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native
CXCRIS	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	FACW	-1	Sedge	Perennial	Native
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	FAC	0	Sedge	Perennial	Native
CXSPAR	Carex sparganioides	Carex sparganioides	Burr-Reed Sedge	5	FAC	FACU	0	Sedge	Perennial	Native
CXSTIP	Carex stipata	Carex stipata	Stalk-Grain Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
cxtrib	Carex tribuloides	Carex tribuloides	Blunt Broom Sedge	7	OBL	FACW	-2	Sedge	Perennial	Native

cxvulp	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
CELOCC	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	FAC	0	Tree	Perennial	Native
cepocc	Cephalanthus occidentalis	Cephalanthus occidentalis	Common Buttonbush	5	OBL	OBL	-2	Shrub	Perennial	Native
chalat	Chasmanthium latifolium	Uniola latifolia	Indian Wood-Oats	7	FACW	FACW	-1	Grass	Perennial	Native
CHEGLA	Chelone glabra	Chelone glabra	White Turtlehead	8	OBL	OBL	-2	Forb	Perennial	Native
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	FACU	1	Forb	Annual	Adventive
chehyb	Chenopodium simplex	Chenopodium hybridum gigantospermum	Maple-Leaf Goosefoot	4	UPL	UPL	2	Forb	Annual	Native
CICMAC	Cicuta maculata	Cicuta maculata	Spotted Water-Hemlock	6	OBL	OBL	-2	Forb	Perennial	Native
cinaru	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	FACW	-1	Grass	Perennial	Native
cirarv	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
conarv	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	UPL	2	Forb	Perennial	Adventive
ERIDIV	Conyza ramosissima	Erigeron divaricatus	Dwarf Horseweed	0	UPL	UPL	2	Forb	Annual	Native
cortri	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	FAC	0	Forb	Perennial	Native
CORSTO	Cornus alba	Cornus stolonifera; Cornus baileyi; Cornus sericea	Red Osier	5	FACW	FACW	-1	Shrub	Perennial	Native
corobl	Cornus obliqua	Cornus obliqua	Pale Dogwood	5	FACW	FACW	-1	Shrub	Perennial	Native
corrac	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
crycan	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	FAC	0	Forb	Perennial	Native
DACGLO	Dactylis glomerata	DACTYLIS GLOMERATA	Orchard Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DIAARM	Dianthus armeria	DIANTHUS ARMERIA	Deptford Pink	0	UPL	UPL	2	Forb	Annual	Adventive
DIPSYL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
diplac	Dipsacus laciniatus	DIPSACUS LACINIATUS	Cut-Leaf Teasel	0	UPL	FACU	2	Forb	Biennial	Adventive
echcru	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	FAC	-1	Grass	Annual	Native
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
ELYVIL	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
eriann	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
eupser	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	FAC	0	Forb	Perennial	Native
EUPCYP	Euphorbia cyparissias	EUPHORBIA CYPARISSIAS	Cypress Spurge	0	UPL	UPL	2	Forb	Perennial	Adventive
polsca	Fallopia scandens	Polygonum scandens; Fallopia cristata	Climbing Black-Bindweed	3	FAC	FAC	0	Vine	Perennial	Native
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
glystr	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	OBL	-2	Grass	Perennial	Native
HACVIR	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	FACU	1	Forb	Perennial	Native
helaut	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	FACW	-1	Forb	Perennial	Native
helgro	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
HELTUB	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	FACU	1	Forb	Perennial	Native
HEMFUL	Hemerocallis fulva	HEMEROCALLIS FULVA	Orange Day-Lily	0	UPL	UPL	2	Forb	Perennial	Adventive
hermax	Heracleum maximum	Heracleum maximum	American Cow-Parsnip	5	FACW	FACW	-1	Forb	Perennial	Native
hesmat	Hesperis matronalis	HESPERIS MATRONALIS	Mother-of-the-Evening	0	FACU	FACU	1	Forb	Perennial	Adventive
hibtri	Hibiscus trionum	HIBISCUS TRIONUM	Flower-of-an-Hour	0	UPL	UPL	2	Forb	Annual	Adventive
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
irivir	Iris virginica var. shrevei	Iris virginica shrevei	Virginia Blueflag	5	OBL	OBL	-2	Forb	Perennial	Native
jugnig	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
junten	Juncus tenuis	Juncus tenuis	Lesser Poverty Rush	0	FAC	FAC	0	Forb	Perennial	Native
LACSER	Lactuca serriola	LACTUCA SERRIOLA	Prickly Lettuce	0	FACU	FACU	1	Forb	Biennial	Adventive
leeory	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	OBL	-2	Grass	Perennial	Native
leocar	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	UPL	2	Forb	Perennial	Adventive
LINBEN	Lindera benzoin	Lindera benzoin	Northern Spicebush	5	FACW	FACW	-1	Shrub	Perennial	Native
lobsip	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	FACW	-2	Forb	Perennial	Native
lontat	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
lycvir	Lycopus virginicus	Lycopus virginicus	Virginia Water-Horehound	7	OBL	OBL	-2	Forb	Perennial	Native
lysnum	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	FACW	-1	Forb	Perennial	Adventive
lytsal	Lythrum salicaria	LYTHRUM	Purple Loosestrife	0	OBL	OBL	-2	Forb	Perennial	Adventive

		SALICARIA								
MELLOF	Melilotus officinalis	MELILOTUS ALBA	Yellow Sweet-Clover	0	FACU	FACU	1	Forb	Biennial	Adventive
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
		MORUS ALBA VAR.								
MORALB	Morus alba	TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
		Muhlenbergia								
muhmex	Muhlenbergia mexicana	mexicana	Mexican Muhly	5	FACW	FACW	-1	Grass	Perennial	Native
		Muhlenbergia								
muhsch	Muhlenbergia schreberi	schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
nepcat	Nepeta cataria	NEPETA CATARIA	Catnip	0	FACU	FACU	1	Forb	Perennial	Adventive
			Upright Yellow Wood-							
oxastr	Oxalis stricta	Oxalis europaea	Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
pancap	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	FAC	0	Grass	Annual	Native
	Panicum	Panicum								
pandic	dichotomiflorum	dichotomiflorum	Fall Panic Grass	0	FACW	FACW	-1	Grass	Annual	Native
	Parthenocissus	Parthenocissus								
parqui	quinquefolia	quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
		Polygonum coccineum; Polygonum amphibium								
peramp	Persicaria amphibia	stipulaceum	Water Smartweed	4	OBL	OBL	-2	Forb	Perennial	Native
		Polygonum								
polhyd	Persicaria hydropiper	hydropiper	Mild Water-Pepper	2	OBL	OBL	-2	Forb	Annual	Native
		Polygonum lapathifolium; POLYGONUM								
pollap	Persicaria lapathifolia	SCABRUM	Dock-Leaf Smartweed	0	FACW	FACW	-1	Forb	Annual	Native
		POLYGONUM								
polper	Persicaria maculosa	PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
		Polygonum								
polpen	Persicaria pensylvanica	pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
		Polygonum								
polpun	Persicaria punctata	punctatum	Dotted Smartweed	4	OBL	OBL	-2	Forb	Annual	Native
		Polygonum								
polvir	Persicaria virginiana	virginianum	Jumpseed	4	FAC	FAC	0	Forb	Perennial	Native
		PHALARIS								
phaaru	Phalaris arundinacea	ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHYLAC	Phyla lanceolata	Lippia lanceolata	Northern Frogfruit	4	OBL	OBL	-2	Forb	Perennial	Native
		Physostegia								
phyvir	Physostegia virginiana	virginiana	Obedient-Plant	4	FACW	FACW	-1	Forb	Perennial	Native
pilfon	Pilea fontana	Pilea fontana	Lesser Clearweed	7	FACW	FACW	-1	Forb	Annual	Native
pilpum	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	FACW	-1	Forb	Annual	Native
		PLANTAGO								
plalan	Plantago lanceolata	LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	FAC	0	Forb	Annual	Native
poacom	Poa compressa	POA COMPRESSA	Flat-Stem Blue Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
	Potamogeton X	Potamogeton X								
POTERE	rectifolius	rectifolius	Hybrid Pondweed	7	OBL	OBL	-2	Forb	Perennial	Native
	Prunella vulgaris ssp.	Prunella vulgaris								
pruvull	lanceolata	lanceolata	Common Selfheal	1	FAC	FAC	0	Forb	Perennial	Native
	Pycnanthemum	Pycnanthemum								
PYCVIR	virginianum	virginianum	Virginia Mountain-Mint	5	FACW	FACW	-1	Forb	Perennial	Native
quebic	Quercus bicolor	Quercus bicolor	Swamp White Oak	5	FACW	FACW	-1	Tree	Perennial	Native
		Quercus								
quemac	Quercus macrocarpa	macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
		Ranunculus								
RANABO	Ranunculus abortivus	abortivus	Kidney-Leaf Buttercup	1	FACW	FAC	-1	Forb	Annual	Native
		RHAMNUS								
rhacat	Rhamnus cathartica	CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
rhutyp	Rhus hirta	Rhus typhina	Staghorn Sumac	1	UPL	UPL	2	Tree	Perennial	Native
		RORIPPA								
RORSYL	Rorippa sylvestris	SYLVESTRIS	Creeping Yellowcress	0	OBL	OBL	-2	Forb	Perennial	Adventive
rubocc	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	UPL	2	Shrub	Perennial	Native
rudlac	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
	Rudbeckia	Rudbeckia								
RUDSUB	subtomentosa	subtomentosa	Sweet Coneflower	8	FACU	FACU	1	Forb	Perennial	Native
rudtri	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
rumcri	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
rummex	Rumex triangulivalvis	Rumex mexicanus	Triangular-Valved Dock	0	FACW	FAC	-1	Forb	Perennial	Native
RUMVER	Rumex verticillatus	Rumex verticillatus	Swamp Dock	8	OBL	OBL	-2	Forb	Perennial	Native
	Sambucus nigra ssp.	Sambucus								
samcan	canadensis	canadensis	Black Elder	4	FAC	FACW	-1	Shrub	Perennial	Native
			Clustered Black-							
sangre	Sanicula odorata	Sanicula gregaria	Snakeroot	3	FAC	FAC	0	Forb	Perennial	Native
		Scirpus fluviatilis;								
	Schoenoplectus	Bolboschoenus								
schflu	fluviatilis	fluviatilis	River Club-Rush	4	OBL	OBL	-2	Sedge	Perennial	Native
	Schoenoplectus	Scirpus validus								
scivac	tabernaemontani	creber	Soft-Stem Club-Rush	3	OBL	OBL	-2	Sedge	Perennial	Native
SENVUL	Senecio vulgaris	SENECIO VULGARIS	Common Groundsel	0	UPL	FACU	2	Forb	Annual	Adventive
setfab	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	FACU	1	Grass	Annual	Adventive
setpum	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
		Silphium								
silper	Silphium perfoliatum	perfoliatum	Cup-Plant	5	FACW	FACW	-1	Forb	Perennial	Native
BRAKAB	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	UPL	2	Forb	Annual	Native

SIUSUA	Sium suave	Sium suave	Hemlock Water-Parsnip	7	OBL	OBL	-2	Forb	Perennial	Native
SOLDUL	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade	0	FAC	FAC	0	Vine	Perennial	Adventive
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
solgig	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
sonarv	Sonchus arvensis	SONCHUS ARVENSIS	Field Sow-Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
SPHOBT	Sphenopholis obtusata	Sphenopholis obtusata	Prairie Wedgescale	4	FAC	FAC	0	Grass	Perennial	Native
ASTSAGD	Symphyotrichum drummondii	Aster sagittifolius drummondii	Drummond's Aster	3	UPL	UPL	2	Forb	Perennial	Native
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
thadas	Thalictrum dasycarpum	Thalictrum dasycarpum hypoglaucum	Purple Meadow-Rue	6	FACW	FACW	-1	Forb	Perennial	Native
TILAME	Tilia americana	Tilia americana	American Basswood	5	FACU	FACU	1	Tree	Perennial	Native
RHURAD	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	FAC	0	Vine	Perennial	Native
TRAOHI	Tradescantia ohiensis	Tradescantia ohiensis	Bluejacket	3	FACU	FACU	1	Forb	Perennial	Native
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
trirep	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
ulmame	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
ULMPUM	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive
urtdio	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	FAC	-1	Forb	Perennial	Native
verhas	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
veralt	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	FACW	-1	Forb	Perennial	Native
VERANA	Veronica anagallis-aquatica	Veronica comosa; Veronica catenata var. glandulosa	Blue Water Speedwell	9	OBL	OBL	-2	Forb	Perennial	Native
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
vitrip	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
xanstr	Xanthium strumarium	Xanthium strumarium var. canadense; Xanthium strumarium var. glabratum	Rough Cockleburr	0	FAC	FAC	0	Forb	Annual	Native
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

SITE: WCERT
LOCALE: Reach 8B
BY: MO, WO, MP, WS
6/6/2018 &
NOTES: 9/18/2018

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.74	SPECIES RICHNESS (ALL)	268
MEAN C (ALL SPECIES)	2.79	SPECIES RICHNESS (NATIVE)	200
MEAN C (NATIVE TREES)	4.20	% NON-NATIVE	0.25
MEAN C (NATIVE SHRUBS)	3.31	WET INDICATOR (ALL)	0.10
MEAN C (NATIVE HERBACEOUS)	3.72	WET INDICATOR (NATIVE)	-0.09
FQAI (NATIVE SPECIES)	52.89	% HYDROPHYTE (MIDWEST)	0.54
FQAI (ALL SPECIES)	45.69	% NATIVE PERENNIAL	0.63
ADJUSTED FQAI	32.31	% NATIVE ANNUAL	0.10
% C VALUE 0	0.35	% ANNUAL	0.16
% C VALUE 1-3	0.22	% PERENNIAL	0.80
% C VALUE 4-6	0.33		
% C VALUE 7-10	0.09		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
abuthe	Abutilon theophrasti	ABUTILON THEOPHRASTI	Velvetleaf	0	FACU	FACU	1	Forb	Annual	Adventive
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	FACU	1	Forb	Annual	Native
aceneg	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
acesai	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	FACW	-1	Tree	Perennial	Native
acesau	Acer saccharum	Acer saccharum	Sugar Maple	5	FACU	FACU	1	Tree	Perennial	Native
achmil	Achillea millefolium	ACHILLEA MILLEFOLIUM	Common Yarrow	0	FACU	FACU	1	Forb	Perennial	Adventive
acocal	Acorus calamus	Acorus calamus	Single-Vein Sweetflag	0	OBL	OBL	-2	Forb	Perennial	Adventive
aesgla	Aesculus glabra	Aesculus glabra	Ohio Buckeye	7	FAC	FAC	0	Tree	Perennial	Native
agaten	Agalinis tenuifolia	Agalinis tenuifolia	Slender-Leaf False Foxglove	3	FACW	FACW	-1	Forb	Annual	Native
euprug	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
agrgry	Agrimonia gryposepala	Agrimonia gryposepala	Tall Hairy Grooveburr	2	FACU	FACU	1	Forb	Perennial	Native
agralb	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	FACW	-1	Grass	Perennial	Adventive
alisub	Alisma subcordatum	Alisma subcordatum	American Water-Plantain	3	OBL	OBL	-2	Forb	Perennial	Native
allpet	Alliaria petiolata	ALLIARIA PETIOLATA	Garlic-Mustard	0	FAC	FACU	0	Forb	Biennial	Adventive
ALLCAN	Allium canadense	Allium canadense	Meadow Garlic	3	FACU	FACU	1	Forb	Perennial	Native
amaret	Amaranthus retroflexus	AMARANTHUS RETROFLEXUS	Red-Root	0	FACU	FACU	1	Forb	Annual	Adventive
amatub	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	OBL	-2	Forb	Annual	Native
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
ambtri	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	FAC	0	Forb	Annual	Native
amofru	Amorpha fruticosa	Amorpha fruticosa	False Indigo-Bush	5	FACW	FACW	-1	Shrub	Perennial	Native
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
apocan	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
arcmin	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	FACU	1	Forb	Biennial	Adventive
artvul	Artemisia vulgaris	ARTEMISIA VULGARIS	Common Mugwort	0	UPL	UPL	2	Forb	Perennial	Adventive
asacan	Asarum canadense	Asarum canadense	Canadian Wild Ginger	10	FACU	UPL	1	Forb	Perennial	Native
ASCINC	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	OBL	-2	Forb	Perennial	Native
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
ascver	Asclepias verticillata	Asclepias verticillata	Whorled Milkweed	1	FACU	UPL	1	Forb	Perennial	Native
ascvir	Asclepias viridiflora	Asclepias viridiflora	Green Milkweed	10	UPL	UPL	2	Forb	Perennial	Native
asitri	Asimina triloba	Asimina triloba	Common Pawpaw	10	FAC	FAC	0	Tree	Perennial	Native
BAPAUS	Baptisia australis	BAPTISIA AUSTRALIS	Blue Wild Indigo	0	FACU	FACU	1	Forb	Perennial	Adventive
BETNIG	Betula nigra	Betula nigra	River Birch	5	FACW	FACW	-1	Tree	Perennial	Native
bidcer	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	OBL	-2	Forb	Annual	Native
bidfro	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
bolast	Boltonia asteroides	Boltonia latisquama recognita	White Doll's Daisy	8	OBL	FACW	-2	Forb	Perennial	Native

boucur	Bouteloua curtipendula	Bouteloua curtipendula	Side-Oats Grama	8	UPL	UPL	2	Grass	Perennial	Native
BRANIG	Brassica nigra	BRASSICA NIGRA	Black Mustard	0	UPL	UPL	2	Forb	Annual	Adventive
BROJAP	Bromus arvensis	BROMUS JAPONICUS	Field Brome	0	FACU	FACU	1	Grass	Annual	Adventive
broine	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
brotec	Bromus tectorum	BROMUS TECTORUM	Downy Chess	0	UPL	UPL	2	Grass	Annual	Adventive
calcan	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	OBL	-2	Grass	Perennial	Native
camame	Campanulastrum americanum	Campanula americana	American-Bellflower	4	FAC	FAC	0	Forb	Annual	Native
capbur	Capsella bursa-pastoris	CAPSELLA BURSA-PASTORIS	Shepherd's-Purse	0	FACU	FACU	1	Forb	Annual	Adventive
cxbebb	Carex bebbii	Carex bebbii	Bebb's Sedge	8	OBL	OBL	-2	Sedge	Perennial	Native
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native
cxcris	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	FACW	-1	Sedge	Perennial	Native
cxfran	Carex frankii	Carex frankii	Frank's Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	FAC	0	Sedge	Perennial	Native
CXHYST	Carex hystericina	Carex hystericina	Porcupine Sedge	7	OBL	OBL	-2	Sedge	Perennial	Native
cxlacu	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	OBL	-2	Sedge	Perennial	Native
cxscop	Carex scoparia	Carex scoparia	Pointed Broom Sedge	5	FACW	FACW	-1	Sedge	Perennial	Native
cxtrib	Carex tribuloides	Carex tribuloides	Blunt Broom Sedge	7	OBL	FACW	-2	Sedge	Perennial	Native
cxvulp	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
carcar	Carpinus caroliniana ssp. virginiana	Carpinus caroliniana virginiana	American Hornbeam	8	FAC	FAC	0	Tree	Perennial	Native
carcor	Carya cordiformis	Carya cordiformis	Bitter-Nut Hickory	5	FACU	FAC	1	Tree	Perennial	Native
carovt	Carya ovata	Carya ovata	Shag-Bark Hickory	5	FACU	FACU	1	Tree	Perennial	Native
celorb	Celastrus orbiculatus	CELASTRUS ORBICULATUS	Asian Bittersweet	0	UPL	UPL	2	Vine	Perennial	Adventive
celocc	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	FAC	0	Tree	Perennial	Native
cepocc	Cephalanthus occidentalis	Cephalanthus occidentalis	Common Buttonbush	5	OBL	OBL	-2	Shrub	Perennial	Native
cercan	Cercis canadensis	Cercis canadensis	Redbud	5	FACU	FACU	1	Tree	Perennial	Native
CHEGLA	Chelone glabra	Chelone glabra	White Turtlehead	8	OBL	OBL	-2	Forb	Perennial	Native
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	FACU	1	Forb	Annual	Adventive
CICMAC	Cicuta maculata	Cicuta maculata	Spotted Water-Hemlock	6	OBL	OBL	-2	Forb	Perennial	Native
cinaru	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	FACW	-1	Grass	Perennial	Native
cirlut	Circaea canadensis	Circaea lutetiana canadensis	Broad-Leaf Enchanter's-Nightshade	3	FACU	FACU	1	Forb	Perennial	Native
cirarv	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
comcom	Commelina communis	COMMELINA COMMUNIS	Asiatic Dayflower	0	FACU	FAC	1	Forb	Annual	Adventive
CONMAC	Conium maculatum	CONIUM MACULATUM	Poison-Hemlock	0	FACW	FACW	-1	Forb	Biennial	Adventive
cortri	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	FAC	0	Forb	Perennial	Native
corobl	Cornus obliqua	Cornus obliqua	Pale Dogwood	5	FACW	FACW	-1	Shrub	Perennial	Native
corrac	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
corame	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native
cracru	Crataegus crus-galli	Crataegus crus-galli; Crataegus acutifolia	Cock-Spur Hawthorn	3	FAC	FAC	0	Tree	Perennial	Native
CRAMOL	Crataegus mollis	Crataegus mollis	Downy Hawthorn	2	FAC	FAC	0	Tree	Perennial	Native
crycan	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	FAC	0	Forb	Perennial	Native
cypesc	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	FACW	-1	Sedge	Perennial	Native
dacglo	Dactylis glomerata	DACTYLIS GLOMERATA	Orchard Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
dasmac	Dasistoma macrophylla	Seymeria macrophylla	Mullein-Foxglove	8	FACU	FACU	1	Forb	Perennial	Native
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
descaa	Desmodium canadense	Desmodium canadense	Showy Tick-Trefoil	4	FACU	FAC	1	Forb	Perennial	Native
DODMEA	Dodecatheon meadia	Dodecatheon meadia	Pride-of-Ohio	6	FACU	FACU	1	Forb	Perennial	Native
echpur	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	UPL	2	Forb	Perennial	Native
echcru	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	FAC	-1	Grass	Annual	Native
ECHLOB	Echinocystis lobata	Echinocystis lobata	Wild Cucumber	4	FACW	FACW	-1	Vine	Annual	Native
eclpro	Eclipta prostrata	ECLIPTA PROSTRATA	False Daisy	0	FACW	FACW	-1	Forb	Annual	Adventive
elaang	Elaeagnus angustifolia	ELAEAGNUS ANGUSTIFOLIA	Russian-Olive	0	FACU	FACU	1	Shrub	Perennial	Adventive
elycan	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
agrrep	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	FACU	1	Grass	Perennial	Adventive
elyvil	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
epicol	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
erahyp	Eragrostis hypnoides	Eragrostis hypnoides	Teal Love Grass	5	OBL	OBL	-2	Grass	Annual	Native
eriann	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
concan	Erigeron canadensis	Conyza canadensis	Canadian Horseweed	0	FACU	FACU	1	Forb	Annual	Native
erivil	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	UPL	2	Grass	Annual	Adventive
eryyuc	Eryngium yuccifolium	Eryngium yuccifolium	Button Eryngo	9	FAC	FAC	0	Forb	Perennial	Native
euoeur	Euonymus europaeus	EUONYMUS EUROPAEUS	European Spindle Tree	0	UPL	UPL	2	Shrub	Perennial	Adventive
eupalt	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
eupser	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	FAC	0	Forb	Perennial	Native

solgra	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
eupmac	Eutrochium maculatum	Eupatorium maculatum	Spotted Trumpetweed	5	OBL	OBL	-2	Forb	Perennial	Native
euppur	Eutrochium purpureum	Eupatorium purpureum	Sweet-Scented Joe-Pye-Weed	6	FAC	FAC	0	Forb	Perennial	Native
polsca	Fallopia scandens	Polygonum scandens; Fallopia cristata	Climbing Black-Bindweed	3	FAC	FAC	0	Vine	Perennial	Native
fraame	Fraxinus americana	Fraxinus americana biltmoreana; Fraxinus biltmoreana	White Ash	5	FACU	FACU	1	Tree	Perennial	Native
frapen	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
galapa	Galium aparine	Galium spurium	Sticky-Willy	0	FACU	FACU	1	Forb	Annual	Native
GALODO	Galium odoratum	GALIUM ODORATUM	Sweet Woodruff	0	UPL	UPL	2	Forb	Perennial	Adventive
galtrl	Galium triflorum	Galium triflorum	Fragrant Bedstraw	5	FACU	FACU	1	Forb	Perennial	Native
geucan	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
glystr	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	OBL	-2	Grass	Perennial	Native
hacvir	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	FACU	1	Forb	Perennial	Native
helaut	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	FACW	-1	Forb	Perennial	Native
heltub	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	FACU	1	Forb	Perennial	Native
helhel	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
hyppun	Hypericum punctatum	Hypericum punctatum	Spotted St. John's-Wort	4	FAC	FAC	0	Forb	Perennial	Native
impcap	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
IRIPSE	Iris pseudacorus	IRIS PSEUDACORUS	Pale-Yellow Iris	0	OBL	OBL	-2	Forb	Perennial	Adventive
jugnig	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
JUNCAN	Juncus canadensis	Juncus canadensis	Canadian Rush	5	OBL	OBL	-2	Forb	Perennial	Native
jundud	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
JUNEFF	Juncus effusus ssp. solutus	Juncus effusus	Lamp Rush	5	OBL	OBL	-2	Forb	Perennial	Native
JUNINT	Juncus interior	Juncus interior	Inland Rush	4	FAC	FAC	0	Forb	Perennial	Native
juntor	Juncus torreyi	Juncus torreyi	Torrey's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
lacbie	Lactuca biennis	Lactuca biennis	Wild Blue Lettuce	5	FAC	FAC	0	Forb	Biennial	Native
lacflo	Lactuca floridana	Lactuca floridana	Woodland Lettuce	8	FACU	FACU	1	Forb	Biennial	Native
lacser	Lactuca serriola	LACTUCA SERRIOLA	Prickly Lettuce	0	FACU	FACU	1	Forb	Biennial	Adventive
leeory	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	OBL	-2	Grass	Perennial	Native
leevir	Leersia virginica	Leersia virginica	White Grass	5	FACW	FACW	-1	Grass	Perennial	Native
leocar	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	UPL	2	Forb	Perennial	Adventive
CHRLEU	Leucanthemum vulgare	CHRYSANTHEMUM LEUCANTHEMUM PINNATIFIDUM; LEUCANTHEMUM VULGARE VAR. PINNATIFIDUM	Ox-Eye Daisy	0	UPL	UPL	2	Forb	Perennial	Adventive
linben	Lindera benzoin	Lindera benzoin	Northern Spicebush	5	FACW	FACW	-1	Shrub	Perennial	Native
lonmaa	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
lontat	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
lycame	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	OBL	-2	Forb	Perennial	Native
lysnum	Lysimachia nummularia	NUMMULARIA	Creeping-Jenny	0	FACW	FACW	-1	Forb	Perennial	Adventive
lytala	Lythrum alatum	Lythrum alatum	Wing-Angle Loosestrife	7	OBL	OBL	-2	Forb	Perennial	Native
LYTSAL	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife	0	OBL	OBL	-2	Forb	Perennial	Adventive
SMIRAC	Maianthemum racemosum	Smilacina racemosa	Feathery False Solomon's-Seal	5	FACU	FACU	1	Forb	Perennial	Native
malsie	Malus toringa	MALUS SIEBOLDII	Japanese Crab Apple	0	UPL	UPL	2	Tree	Perennial	Adventive
medlup	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	FACU	1	Forb	Annual	Adventive
melalb	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
mellof	Melilotus officinalis	MELILOTUS ALBA	Yellow Sweet-Clover	0	FACU	FACU	1	Forb	Biennial	Adventive
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
moralb	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
muhmex	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	FACW	-1	Grass	Perennial	Native
muhsch	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
myoaqu	Myosoton aquaticum	MYOSOTON AQUATICUM	Giant-Chickweed	0	FACW	FAC	-1	Forb	Perennial	Adventive
oenbie	Oenothera biennis	Oenothera biennis	King's-Cureall	0	FACU	FACU	1	Forb	Biennial	Native
ostvir	Ostrya virginiana	Ostrya virginiana	Eastern Hop-Hornbeam	5	FACU	FACU	1	Tree	Perennial	Native
oxastr	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
pancap	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	FAC	0	Grass	Annual	Native
pandic	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	FACW	-1	Grass	Annual	Native
panvir	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	FAC	0	Grass	Perennial	Native
parqui	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
PEDCAN	Pedicularis	Pedicularis canadensis	Canadian Lousewort	9	FACU	FACU	1	Forb	Perennial	Native

	canadensis									
pendig	Penstemon digitalis	Penstemon digitalis	Foxglove Beardtongue	4	FAC	FAC	0	Forb	Perennial	Native
polhyd	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	OBL	-2	Forb	Annual	Native
pollap	Persicaria lapathifolia	Polygonum lapathifolium; POLYGONUM SCABRUM	Dock-Leaf Smartweed	0	FACW	FACW	-1	Forb	Annual	Native
polper	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
polpen	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
polpun	Persicaria punctata	Polygonum punctatum	Dotted Smartweed	4	OBL	OBL	-2	Forb	Annual	Native
polvir	Persicaria virginiana	Polygonum virginianum	Jumpseed	4	FAC	FAC	0	Forb	Perennial	Native
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHRAUSV	Phragmites australis cult. variegatus	PHRAGMITES AUSTRALIS CULT. VARIEGATUS	Striped Common Reed	0	UPL	UPL	2	Grass	Perennial	Adventive
phrausm	Phragmites australis ssp. americanus	Phragmites americanus	Common Reed	3	FACW	FACW	-1	Grass	Perennial	Native
phrlep	Phryma leptostachya	Phryma leptostachya	Lopseed	6	UPL	FACU	2	Forb	Perennial	Native
phyvir	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	FACW	-1	Forb	Perennial	Native
phyame	Phytolacca americana	Phytolacca americana	American Pokeweed	0	FACU	FACU	1	Forb	Perennial	Native
pilfon	Pilea fontana	Pilea fontana	Lesser Clearweed	7	FACW	FACW	-1	Forb	Annual	Native
pilpum	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	FACW	-1	Forb	Annual	Native
plalan	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	FAC	0	Forb	Annual	Native
plaocc	Platanus occidentalis	Platanus occidentalis	American Sycamore	5	FACW	FACW	-1	Tree	Perennial	Native
poacom	Poa compressa	POA COMPRESSA	Flat-Stem Blue Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
poapra	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
popdel	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
POTSIM	Potentilla simplex	Potentilla simplex argyrisma	Oldfield Cinquefoil	3	FACU	FACU	1	Forb	Perennial	Native
pruvull	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	FAC	0	Forb	Perennial	Native
pruame	Prunus americana	Prunus americana	American Plum	3	UPL	UPL	2	Tree	Perennial	Native
pruser	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	FACU	1	Shrub	Perennial	Native
ptetri	Ptelea trifoliata	Ptelea trifoliata	Common Hoptree	4	FACU	FACU	1	Shrub	Perennial	Native
pycten	Pycnanthemum tenuifolium	Pycnanthemum tenuifolium	Narrow-Leaf Mountain-Mint	7	FAC	FAC	0	Forb	Perennial	Native
pycvir	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	FACW	-1	Forb	Perennial	Native
quealb	Quercus alba	Quercus alba	Northern White Oak	5	FACU	FACU	1	Tree	Perennial	Native
quebic	Quercus bicolor	Quercus bicolor	Swamp White Oak	5	FACW	FACW	-1	Tree	Perennial	Native
queell	Quercus ellipsoidalis	Quercus ellipsoidalis	Hill's Oak	4	UPL	UPL	2	Tree	Perennial	Native
quemac	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
querub	Quercus rubra	Quercus rubra	Northern Red Oak	5	FACU	FACU	1	Tree	Perennial	Native
quevel	Quercus velutina	Quercus velutina	Black Oak	5	UPL	UPL	2	Tree	Perennial	Native
RANSCE	Ranunculus sceleratus	Ranunculus sceleratus	Cursed Buttercup	4	OBL	OBL	-2	Forb	Annual	Native
ratpin	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	UPL	2	Forb	Perennial	Native
rhacat	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
rhugla	Rhus glabra	Rhus glabra	Smooth Sumac	1	UPL	UPL	2	Shrub	Perennial	Native
rhutyp	Rhus hirta	Rhus typhina	Staghorn Sumac	1	UPL	UPL	2	Tree	Perennial	Native
ribame	Ribes americanum	Ribes americanum	Wild Black Currant	4	FACW	FACW	-1	Shrub	Perennial	Native
ribmis	Ribes missouriense	Ribes missouriense	Missouri Gooseberry	2	UPL	UPL	2	Shrub	Perennial	Native
robpse	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	FACU	1	Tree	Perennial	Adventive
rosmul	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	FACU	1	Shrub	Perennial	Adventive
rosset	Rosa setigera	Rosa setigera var. tomentosa	Climbing Rose	5	FACU	FACU	1	Shrub	Perennial	Native
ruball	Rubus allegheniensis	Rubus allegheniensis	Allegheny Blackberry	3	FACU	FACU	1	Shrub	Perennial	Native
rubocc	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	UPL	2	Shrub	Perennial	Native
rudhir	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	FACU	1	Forb	Perennial	Native
rudlac	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
rudsub	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	FACU	1	Forb	Perennial	Native
rudtri	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
rumcri	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
rumobt	Rumex obtusifolius	RUMEX OBTUSIFOLIUS	Bitter Dock	0	FACW	FAC	-1	Forb	Perennial	Adventive
RUMVER	Rumex verticillatus	Rumex verticillatus	Swamp Dock	8	OBL	OBL	-2	Forb	Perennial	Native
saglat	Sagittaria latifolia	Sagittaria latifolia	Duck-Potato	3	OBL	OBL	-2	Forb	Perennial	Native
salnig	Salix nigra	Salix nigra	Black Willow	5	OBL	OBL	-2	Tree	Perennial	Native
samcan	Sambucus nigra ssp. canadensis	Sambucus canadensis	Black Elder	4	FAC	FACW	-1	Shrub	Perennial	Native
sancad	Sanguinaria canadensis	Sanguinaria canadensis	Bloodroot	5	FACU	FACU	1	Forb	Perennial	Native
sangre	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	FAC	0	Forb	Perennial	Native
fesela	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
schsco	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	FACU	1	Grass	Perennial	Native
sciflu	Schoenoplectus fluviatilis	Scirpus fluviatilis; Bolboschoenus fluviatilis	River Club-Rush	4	OBL	OBL	-2	Sedge	Perennial	Native
schmar	Schoenoplectus maritimus	SCIRPUS PALUDOSUS; Bolboschoenus	Saltmarsh Club-Rush	0	OBL	OBL	-2	Sedge	Perennial	Adventive

		maritimus								
sciatv	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
setfab	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	FACU	1	Grass	Annual	Adventive
setpum	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
		Silphium integrifolium var. deamii; Silphium integrifolium var.								
silint	Silphium integrifolium	neglectum	Entire-Leaf Rosinweed	5	UPL	FAC	2	Forb	Perennial	Native
sillac	Silphium laciniatum	Silphium laciniatum	Compass-Plant	5	UPL	UPL	2	Forb	Perennial	Native
silper	Silphium perfoliatum	Silphium perfoliatum	Cup-Plant	5	FACW	FACW	-1	Forb	Perennial	Native
brakab	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	UPL	2	Forb	Annual	Native
SIUSUA	Sium suave	Sium suave	Hemlock Water-Parsnip	7	OBL	OBL	-2	Forb	Perennial	Native
smilas	Smilax lasioneuron	Smilax lasioneura	Common Carrion Flower	5	UPL	UPL	2	Vine	Perennial	Native
SOLDUL	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade	0	FAC	FAC	0	Vine	Perennial	Adventive
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
solgig	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
solrig	Solidago rigida	Oligoneuron rigidum	Hard-Leaf Flat-Top-Goldenrod	3	FACU	FACU	1	Forb	Perennial	Native
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
spaeur	Sparganium eurycarpum	Sparganium eurycarpum	Broad-Fruit Burr-Reed	5	OBL	OBL	-2	Forb	Perennial	Native
spapec	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	FACW	-1	Grass	Perennial	Native
SPHOBT	Sphenopholis obtusata	Sphenopholis obtusata	Prairie Wedgescale	4	FAC	FAC	0	Grass	Perennial	Native
spoasp	Sporobolus compositus	SPOROBOLUS ASPER	Head-Like Dropseed	0	UPL	UPL	2	Grass	Perennial	Adventive
spovag	Sporobolus vaginiflorus	Sporobolus vaginiflorus	Poverty Dropseed	1	UPL	UPL	2	Grass	Annual	Native
symorb	Symphoricarpos orbiculatus	SYMPHORICARPOS ORBICULATUS	Coral-Berry	0	FACU	FACU	1	Shrub	Perennial	Adventive
astsagd	Symphyotrichum drummondii	Aster sagittifolius drummondii	Drummond's Aster	3	UPL	UPL	2	Forb	Perennial	Native
astlae	Symphyotrichum laeve	Aster laevis	Smooth Blue American-Aster	9	FACU	FACU	1	Forb	Perennial	Native
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
astnov	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
symame	Symphyotrichum X amethystinum	Symphyotrichum X amethystinum	0	5	UPL	UPL	2	Forb	Perennial	Native
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
teucan	Teucrium canadense	Teucrium canadense	American Germander	3	FACW	FACW	-1	Forb	Perennial	Native
tilame	Tilia americana	Tilia americana	American Basswood	5	FACU	FACU	1	Tree	Perennial	Native
rhurad	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	FAC	0	Vine	Perennial	Native
TRAOHI	Tradescantia ohiensis	Tradescantia ohiensis	Bluejacket	3	FACU	FACU	1	Forb	Perennial	Native
trihyb	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
tripra	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
trirep	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
ulmame	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
ulmpum	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive
urtdio	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	FAC	-1	Forb	Perennial	Native
verhas	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
veralt	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	FACW	-1	Forb	Perennial	Native
verfas	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	FACW	-1	Forb	Perennial	Native
vibden	Viburnum dentatum	VIBURNUM DENTATUM VAR. SCABRELLUM	Southern Arrow-Wood	0	FAC	FAC	0	Shrub	Perennial	Adventive
VIBLEN	Viburnum lentago	Viburnum lentago	Nanny-Berry	4	FAC	FAC	0	Shrub	Perennial	Native
vibopu	Viburnum opulus var. opulus	VIBURNUM OPULUS	Highbush-Cranberry	0	FAC	FACW	0	Shrub	Perennial	Adventive
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
vitrip	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
xanstr	Xanthium strumarium	Xanthium strumarium var. canadense; Xanthium strumarium var. glabratum	Rough Cockleburr	0	FAC	FAC	0	Forb	Annual	Native
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

SITE: WCERT
LOCALE: Reach 5E
BY: MO, WO, MP, WS
NOTES: 6/7/2018 & 9/19/2018

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.00	SPECIES RICHNESS (ALL)	140
MEAN C (ALL SPECIES)	2.14	SPECIES RICHNESS (NATIVE)	100
MEAN C (NATIVE TREES)	3.67	% NON-NATIVE	0.29
MEAN C (NATIVE SHRUBS)	1.86	WET INDICATOR (ALL)	0.20
MEAN C (NATIVE HERBACEOUS)	3.07	WET INDICATOR (NATIVE)	-0.05
FQAI (NATIVE SPECIES)	30.00	% HYDROPHYTE (MIDWEST)	0.52
FQAI (ALL SPECIES)	25.35	% NATIVE PERENNIAL	0.57
ADJUSTED FQAI	25.35	% NATIVE ANNUAL	0.12
% C VALUE 0	0.47	% ANNUAL	0.20
% C VALUE 1-3	0.21	% PERENNIAL	0.74
% C VALUE 4-6	0.24		
% C VALUE 7-10	0.07		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
abuthe	Abutilon theophrasti	ABUTILON THEOPHRASTI	Velvetleaf	0	FACU	FACU	1	Forb	Annual	Adventive
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	FACU	1	Forb	Annual	Native
acesau	Acer saccharum	Acer saccharum	Sugar Maple	5	FACU	FACU	1	Tree	Perennial	Native
aganep	Agastache nepetoides	Agastache nepetoides	Yellow Giant-Hyssop	5	FACU	FACU	1	Forb	Perennial	Native
euprug	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
agralb	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	FACW	-1	Grass	Perennial	Adventive
alnglu	Alnus glutinosa	ALNUS GLUTINOSA	European Alder	0	FACW	FACW	-1	Tree	Perennial	Adventive
amaret	Amaranthus retroflexus	AMARANTHUS RETROFLEXUS	Red-Root	0	FACU	FACU	1	Forb	Annual	Adventive
amatub	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	OBL	-2	Forb	Annual	Native
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
anecan	Anemone canadensis	Anemone canadensis	Round-Leaf Thimbleweed	4	FACW	FACW	-1	Forb	Perennial	Native
anecyl	Anemone cylindrica	Anemone cylindrica	Thimbleweed	8	UPL	UPL	2	Forb	Perennial	Native
anevir	Anemone virginiana	Anemone virginiana	Tall Thimbleweed	5	FACU	FACU	1	Forb	Perennial	Native
ascinc	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	OBL	-2	Forb	Perennial	Native
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
asctub	Asclepias tuberosa	Asclepias tuberosa	Butterfly-Weed	8	UPL	UPL	2	Forb	Perennial	Native
ascvir	Asclepias viridiflora	Asclepias viridiflora	Green Milkweed	10	UPL	UPL	2	Forb	Perennial	Native
barvul	Barbarea vulgaris	BARBAREA VULGARIS	Garden Yellow-Rocket	0	FAC	FAC	0	Forb	Biennial	Adventive
bidfro	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
boecyl	Boehmeria cylindrica	Boehmeria cylindrica drummondiana	Small-Spike False Nettle	5	OBL	OBL	-2	Forb	Perennial	Native
broine	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
calcan	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	OBL	-2	Grass	Perennial	Native
consep	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	FAC	0	Forb	Perennial	Native
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native
cxcris	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	FACW	-1	Sedge	Perennial	Native
cxfran	Carex frankii	Carex frankii	Frank's Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
cxlacu	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	OBL	-2	Sedge	Perennial	Native
cxvulp	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
cepocc	Cephalanthus occidentalis	Cephalanthus occidentalis	Common Buttonbush	5	OBL	OBL	-2	Shrub	Perennial	Native
cercan	Cercis canadensis	Cercis canadensis	Redbud	5	FACU	FACU	1	Tree	Perennial	Native
chanut	Chamaesyce nutans	Chamaesyce nutans	Eyebane	0	FACU	FACU	1	Forb	Annual	Native
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	FACU	1	Forb	Annual	Adventive
cirarv	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
conarv	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	UPL	2	Forb	Perennial	Adventive
corrac	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
cypesc	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	FACW	-1	Sedge	Perennial	Native

daucar	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
desill	Desmodium illinoense	Desmodium illinoense	Illinois Tick-Trefoil	9	UPL	UPL	2	Forb	Perennial	Native
digisc	Digitaria ischaemum	DIGITARIA ISCHAEMUM	Smooth Crab Grass	0	FACU	FACU	1	Grass	Annual	Adventive
echcru	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	FAC	-1	Grass	Annual	Native
elyvil	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
eriann	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
erican	Erigeron canadensis	Conyza canadensis	Canadian Horseweed	0	FACU	FACU	1	Forb	Annual	Native
erivil	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	UPL	2	Grass	Annual	Adventive
eupser	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	FAC	0	Forb	Perennial	Native
fravir	Fragaria virginiana	Fragaria virginiana	Virginia Strawberry	0	FACU	FACU	1	Forb	Perennial	Native
frapen	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
geucan	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
helaut	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	FACW	-1	Forb	Perennial	Native
helgro	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
helhel	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
hibtri	Hibiscus trionum	HIBISCUS TRIONUM	Flower-of-an-Hour	0	UPL	UPL	2	Forb	Annual	Adventive
irivir	Iris virginica var. shrevei	Iris virginica shrevei	Virginia Blueflag	5	OBL	OBL	-2	Forb	Perennial	Native
jugnig	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
laccan	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	FACU	1	Forb	Biennial	Native
leeory	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	OBL	-2	Grass	Perennial	Native
linvul	Linaria vulgaris	LINARIA VULGARIS	Butter-and-Eggs	0	UPL	UPL	2	Forb	Perennial	Adventive
lonmaa	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
lycame	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	OBL	-2	Forb	Perennial	Native
lysthy	Lysimachia thyrsiflora	Lysimachia thyrsiflora	Tufted Yellow-Loosestrife	8	OBL	OBL	-2	Forb	Perennial	Native
medlup	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	FACU	1	Forb	Annual	Adventive
melalb	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
moralb	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
muhsch	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
nepcat	Nepeta cataria	NEPETA CATARIA	Catnip	0	FACU	FACU	1	Forb	Perennial	Adventive
oenbie	Oenothera biennis	Oenothera biennis	King's-Cureall	0	FACU	FACU	1	Forb	Biennial	Native
oxastr	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
pancap	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	FAC	0	Grass	Annual	Native
pandic	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	FACW	-1	Grass	Annual	Native
panvir	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	FAC	0	Grass	Perennial	Native
parqui	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
pendig	Penstemon digitalis	Penstemon digitalis	Foxglove Beardtongue	4	FAC	FAC	0	Forb	Perennial	Native
polhyd	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	OBL	-2	Forb	Annual	Native
polper	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
polpen	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
phyame	Phytolacca americana	Phytolacca americana	American Pokeweed	0	FACU	FACU	1	Forb	Perennial	Native
plalan	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	FAC	0	Forb	Annual	Native
poapra	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
popdel	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
porole	Portulaca oleracea	PORTULACA OLERACEA	Little-Hogweed	0	FACU	FACU	1	Forb	Annual	Adventive
potnor	Potentilla norvegica	Potentilla norvegica	Norwegian Cinquefoil	0	FAC	FAC	0	Forb	Annual	Native
PRUVULL	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	FAC	0	Forb	Perennial	Native
pruser	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	FACU	1	Shrub	Perennial	Native
pycvir	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	FACW	-1	Forb	Perennial	Native
quemac	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
ratpin	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	UPL	2	Forb	Perennial	Native
rhacat	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
rhugla	Rhus glabra	Rhus glabra	Smooth Sumac	1	UPL	UPL	2	Shrub	Perennial	Native
rosmul	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	FACU	1	Shrub	Perennial	Adventive
rubocc	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	UPL	2	Shrub	Perennial	Native
rudhir	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	FACU	1	Forb	Perennial	Native
rudlac	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
rudsub	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	FACU	1	Forb	Perennial	Native

rudtri	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
rumcri	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
salint	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
samcan	Sambucus nigra ssp. canadensis	Sambucus canadensis	Black Elder	4	FAC	FACW	-1	Shrub	Perennial	Native
sangre	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	FAC	0	Forb	Perennial	Native
andsco	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	FACU	1	Grass	Perennial	Native
scivac	Schoenoplectus tabernaemontani	Scirpus validus creber	Soft-Stem Club-Rush	3	OBL	OBL	-2	Sedge	Perennial	Native
erehie	Senecio hieraciifolius	Erechtites hieracifolia	American Burnweed	0	FAC	FACU	0	Forb	Annual	Native
setfab	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	FACU	1	Grass	Annual	Adventive
setgla	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
brakab	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	UPL	2	Forb	Annual	Native
sisang	Sisyrinchium angustifolium	Sisyrinchium angustifolium	Narrow-Leaf Blue-Eyed-Grass	5	FAC	FAC	0	Forb	Perennial	Native
solame	Solanum americanum	Solanum americanum	American Black Nightshade	0	FACU	FACU	1	Forb	Annual	Native
solcar	Solanum carolinense	SOLANUM CAROLINENSE	Carolina Horse-Nettle	0	FACU	FACU	1	Forb	Perennial	Adventive
soldul	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade	0	FAC	FAC	0	Vine	Perennial	Adventive
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
solrig	Solidago rigida	Oligoneuron rigidum	Hard-Leaf Flat-Top-Goldenrod	3	FACU	FACU	1	Forb	Perennial	Native
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
spapec	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	FACW	-1	Grass	Perennial	Native
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
astnov	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
astpun	Symphyotrichum puniceum	Aster puniceus; Aster puniceus firmus	Purple-Stem American-Aster	8	OBL	OBL	-2	Forb	Perennial	Native
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
tharev	Thalictrum revolutum	Thalictrum revolutum	Waxy-Leaf Meadow-Rue	6	FAC	FAC	0	Forb	Perennial	Native
rhurad	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	FAC	0	Vine	Perennial	Native
trihyb	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
tripra	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
trirep	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
ulmpum	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive
verbla	Verbascum blattaria	VERBASCUM BLATTARIA	White Moth Mullein	0	FACU	FACU	1	Forb	Biennial	Adventive
vertha	Verbascum thapsus	VERBASCUM THAPSUS	Woolly Mullein	0	UPL	UPL	2	Forb	Biennial	Adventive
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
veralt	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	FACW	-1	Forb	Perennial	Native
verfas	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	FACW	-1	Forb	Perennial	Native
verana	Veronica anagallis-aquatica	Veronica comosa; Veronica catenata var. glandulosa	Blue Water Speedwell	9	OBL	OBL	-2	Forb	Perennial	Native
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
vitrip	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

SITE: WCERT
Reach 5D Mack Road
LOCALE: Staging Area
BY: BS
NOTES: 6/7/2018 & 9/19/2018

CONSERVATISM-BASED METRICS	
MEAN C (NATIVE SPECIES)	2.86
MEAN C (ALL SPECIES)	2.00
MEAN C (NATIVE TREES)	3.00
MEAN C (NATIVE SHRUBS)	2.00
MEAN C (NATIVE HERBACEOUS)	2.91
FQAI (NATIVE SPECIES)	10.69
FQAI (ALL SPECIES)	8.94
ADJUSTED FQAI	23.90
% C VALUE 0	0.45
% C VALUE 1-3	0.25
% C VALUE 4-6	0.30
% C VALUE 7-10	0.00

ADDITIONAL METRICS	
SPECIES RICHNESS (ALL)	20
SPECIES RICHNESS (NATIVE)	14
% NON-NATIVE	0.30
WET INDICATOR (ALL)	0.65
WET INDICATOR (NATIVE)	0.50
% HYDROPHYTE (MIDWEST)	0.40
% NATIVE PERENNIAL	0.65
% NATIVE ANNUAL	0.05
% ANNUAL	0.05
% PERENNIAL	0.90

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
ASCSYR	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
CONARV	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	UPL	2	Forb	Perennial	Adventive
CORTRI	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	FAC	0	Forb	Perennial	Native
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	FAC	0	Grass	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
ROSMUL	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	FACU	1	Shrub	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SILINT	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	FAC	2	Forb	Perennial	Native
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
ULMPUM	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive

SITE: WCERT
Reach 5D Mack Road
LOCALE: Upland Savanna
BY: WS
NOTES: 6/7/2018 & 9/19/2018

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.39	SPECIES RICHNESS (ALL)	86
MEAN C (ALL SPECIES)	2.13	SPECIES RICHNESS (NATIVE)	54
MEAN C (NATIVE TREES)	4.25	% NON-NATIVE	0.37
MEAN C (NATIVE SHRUBS)	3.25	WET INDICATOR (ALL)	0.56
MEAN C (NATIVE HERBACEOUS)	3.24	WET INDICATOR (NATIVE)	0.30
FQAI (NATIVE SPECIES)	24.90	% HYDROPHYTE (MIDWEST)	0.34
FQAI (ALL SPECIES)	19.73	% NATIVE PERENNIAL	0.55
ADJUSTED FQAI	26.85	% NATIVE ANNUAL	0.06
% C VALUE 0	0.49	% ANNUAL	0.15
% C VALUE 1-3	0.17	% PERENNIAL	0.77
% C VALUE 4-6	0.28		
% C VALUE 7-10	0.06		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACHMIL	Achillea millefolium	ACHILLEA MILLEFOLIUM	Common Yarrow	0	FACU	FACU	1	Forb	Perennial	Adventive
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
AGRGRY	Agrimonia gryposepala	Agrimonia gryposepala	Tall Hairy Grooveburr	2	FACU	FACU	1	Forb	Perennial	Native
ALLPET	Alliaria petiolata	ALLIARIA PETIOLATA	Garlic-Mustard	0	FAC	FACU	0	Forb	Biennial	Adventive
ALLCAN	Allium canadense	Allium canadense	Meadow Garlic	3	FACU	FACU	1	Forb	Perennial	Native
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
AVESAT	Avena sativa	AVENA SATIVA	Oats	0	UPL	UPL	2	Grass	Annual	Adventive
BROJAP	Bromus arvensis	BROMUS JAPONICUS	Field Brome	0	FACU	FACU	1	Grass	Annual	Adventive
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
CXBLAN	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native
CARCOR	Carya cordiformis	Carya cordiformis	Bitter-Nut Hickory	5	FACU	FAC	1	Tree	Perennial	Native
CAROVT	Carya ovata	Carya ovata	Shag-Bark Hickory	5	FACU	FACU	1	Tree	Perennial	Native
CATSPE	Catalpa speciosa	CATALPA SPECIOSA	Northern Catalpa	0	FACU	FACU	1	Tree	Perennial	Adventive
CHEALB	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	FACU	1	Forb	Annual	Adventive
CORSTO	Cornus alba	Cornus stolonifera; Cornus baileyi; Cornus sericea	Red Osier	5	FACW	FACW	-1	Shrub	Perennial	Native
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native
DACGLO	Dactylis glomerata	DACTYLIS GLOMERATA	Orchard Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DIGSAN	Digitaria sanguinalis	DIGITARIA SANGUINALIS	Hairy Crab Grass	0	FACU	FACU	1	Grass	Annual	Adventive
ECHPUR	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	UPL	2	Forb	Perennial	Native
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
AGRREP	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	FACU	1	Grass	Perennial	Adventive
ELYVIL	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
SOLGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
EUPMAC	Eutrochium maculatum	Eupatorium maculatum	Spotted Trumpetweed	5	OBL	OBL	-2	Forb	Perennial	Native
FESRUB	Festuca rubra	FESTUCA RUBRA	Red Fescue	0	FACU	FACU	1	Grass	Perennial	Adventive
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GERMAC	Geranium maculatum	Geranium maculatum	Spotted Crane's-Bill	5	FACU	FACU	1	Forb	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native

GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
HESMAT	Hesperis matronalis	HESPERIS MATRONALIS	Mother-of-the-Evening	0	FACU	FACU	1	Forb	Perennial	Adventive
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
LACSER	Lactuca serriola	LACTUCA SERRIOLA	Prickly Lettuce	0	FACU	FACU	1	Forb	Biennial	Adventive
		CHRYSANTHEMUM LEUCANTHEMUM PINNATIFIDUM; LEUCANTHEMUM VULGARE VAR.								
CHRLEU	Leucanthemum vulgare	PINNATIFIDUM	Ox-Eye Daisy	0	UPL	UPL	2	Forb	Perennial	Adventive
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	FACW	-2	Forb	Perennial	Native
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
MEDLUP	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	FACU	1	Forb	Annual	Adventive
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
MELLOF	Melilotus officinalis	MELILOTUS ALBA	Yellow Sweet-Clover	0	FACU	FACU	1	Forb	Biennial	Adventive
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
PLALAN	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
PLAMAJ	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
PLARUG	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	FAC	0	Forb	Annual	Native
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
POLPOL	Polygala polygama	Polygala polygama var. obtusata	Racemed Milkwort	9	FACU	FACU	1	Forb	Biennial	Native
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
POTNOR	Potentilla norvegica	Potentilla norvegica	Norwegian Cinquefoil	0	FAC	FAC	0	Forb	Annual	Native
PRUSER	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	FACU	1	Shrub	Perennial	Native
PRUVIR	Prunus virginiana	Prunus virginiana	Choke Cherry	3	FACU	FACU	1	Shrub	Perennial	Native
QUEALB	Quercus alba	Quercus alba	Northern White Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEMAC	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
QUERUB	Quercus rubra	Quercus rubra	Northern Red Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEVEL	Quercus velutina	Quercus velutina	Black Oak	5	UPL	UPL	2	Tree	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	FACU	1	Forb	Perennial	Native
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
RUDSUB	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	FACU	1	Forb	Perennial	Native
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
FESELA	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
SCHSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	FACU	1	Grass	Perennial	Native
SCULAT	Scutellaria lateriflora	Scutellaria lateriflora	Mad Dog Skullcap	4	OBL	OBL	-2	Forb	Perennial	Native
SETGLA	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLFLE	Solidago flexicaulis	Solidago flexicaulis	Zigzag Goldenrod	7	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SONOLE	Sonchus oleraceus	SONCHUS OLERACEUS	Common Sow-Thistle	0	FACU	FACU	1	Forb	Annual	Adventive
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
ASTNOV	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIREP	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIAES	Triticum aestivum	TRITICUM AESTIVUM	Wheat	0	UPL	UPL	2	Grass	Annual	Adventive
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix C

Vascular Plant Transect Data

SITE: WCERT
LOCALE: Reach 8A
BY: MO, WO, MP, WS
NOTES: 9/18/2018

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T10-1	2.6	2.17	5.81	5.31	0.6	0.83	5	6
T10-2	2.25	2.25	4.5	4.5	1	1	4	4
T10-3	2	1.33	4	3.27	0.5	0.67	4	6
T11-1	1.6	1.45	5.06	4.82	-0.4	-0.45	10	11
T12-1	1.6	1.23	5.06	4.44	-1.1	-0.69	10	13
T12-2	2.09	1.92	6.93	6.64	-0.55	-0.42	11	12
T12-3	2.3	2.3	7.27	7.27	-0.8	-0.8	10	10
T12-4	1.55	1.13	5.13	4.39	-0.36	-0.33	11	15
T12-5	1.67	1.5	5	4.74	-0.33	-0.2	9	10
T12-6	2.25	1.8	6.36	5.69	-0.25	-0.1	8	10
T12-7	2.67	1.33	4.62	3.27	-0.33	0.17	3	6
T13-1	3.67	3.14	8.98	8.32	-0.67	-0.43	6	7
T13-2	3.67	2.2	6.35	4.92	-0.33	0	3	5
T13-3	3	1.71	6	4.54	0	0.14	4	7
T13-4	3.13	2.78	8.84	8.33	-1.38	-1.33	8	9
T13-5	2.5	2.08	7.91	7.22	-1.1	-1.08	10	12
T13-6	2.38	1.9	6.72	6.01	-0.75	-0.8	8	10
T14-1	1.69	1.57	6.1	5.88	0.08	0.21	13	14
T14-2	2.63	2.1	7.42	6.64	-0.38	-0.1	8	10
T14-3	3	2.31	9.49	8.32	-1.1	-0.92	10	13
T14-4	2.5	2.5	7.07	7.07	-1	-1	8	8
T15-1	1.69	1.38	6.1	5.5	-0.46	-0.25	13	16
AVG	2.38	1.91	6.4	5.78	-0.41	-0.27	8	9.73
STD	0.64	0.53	1.5	1.54	0.59	0.62	3.09	3.34

TRANSECT SUMMARY

C	NUMBER					
0	15				56	NATIVE SPECIES
1	10				74	TOTAL SPECIES
2	3				2.34	NATIVE MEAN C
3	11	0:	26.79%		1.77	W/Adventives
4	9	1 to 3:	42.86%		17.51	NATIVE FQI
5	5	4 to 6:	26.79%		15.23	W/Adventives
6	1	7 to 10:	3.57%		-0.41	NATIVE MEAN W
7	1				-0.22	W/Adventives
8	1					
9	0					
10	0					

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	56	75.68%	ADVENTIVE	18	24.32%
Tree	1	1.35%	Tree	0	0.00%
Shrub	1	1.35%	Shrub	1	1.35%
Vine	2	2.70%	Vine	0	0.00%
Forb	40	54.05%	Forb	13	17.57%
Grass	8	10.81%	Grass	4	5.41%
Sedge	4	5.41%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Tree	1	4	0.5	0.2	0.3
N Shrub	1	8	0.5	0.5	0.5
N Vine	6	30	2.8	1.7	2.3
N Forb	135	1329	63.1	75.9	69.5
N Grass	29	220	13.6	12.6	13.1
N Sedge	4	17	1.9	1	1.4
A Shrub	1	4	0.5	0.2	0.3
A Forb	26	87	12.1	5	8.6
A Grass	11	51	5.1	2.9	4

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Symphyotrichum lanceolatum	3	FAC	10	247	4.7	14.1	9.4
Rudbeckia laciniata	4	FACW	9	196	4.2	11.2	7.7
Physostegia virginiana	4	FACW	5	129	2.3	7.4	4.9
Rudbeckia triloba	1	FACU	10	123	4.7	7	5.9
Elymus virginicus	3	FACW	14	117	6.5	6.7	6.6
Persicaria hydropiper	2	OBL	11	102	5.1	5.8	5.5
Eupatorium serotinum	0	FAC	12	71	5.6	4.1	4.8
Bidens frondosa	1	FACW	6	68	2.8	3.9	3.3
Elymus villosus	5	FACU	1	40	0.5	2.3	1.4
Zizia aurea	5	FAC	1	40	0.5	2.3	1.4
Solidago canadensis	1	FACU	4	36	1.9	2.1	2
Urtica dioica ssp. gracilis	1	FACW	5	33	2.3	1.9	2.1
Leersia oryzoides	3	OBL	7	33	3.3	1.9	2.6
Agrostis gigantea	0	FACW	3	29	1.4	1.7	1.5
Calystegia sepium	1	FAC	5	24	2.3	1.4	1.9
Helenium autumnale	5	FACW	4	23	1.9	1.3	1.6
Leonurus cardiaca	0	UPL	4	22	1.9	1.3	1.6
Bidens cernua	3	OBL	5	22	2.3	1.3	1.8
Parthenocissus quinquefolia	4	FACU	4	21	1.9	1.2	1.5
Persicaria pensylvanica	0	FACW	3	20	1.4	1.1	1.3
Apocynum cannabinum	2	FAC	2	20	0.9	1.1	1
Sanicula odorata	3	FAC	2	18	0.9	1	1
Glechoma hederacea	0	FACU	6	18	2.8	1	1.9
Pilea fontana	7	FACW	3	18	1.4	1	1.2
Phalaris arundinacea	0	FACW	5	17	2.3	1	1.7
Oxalis stricta	0	FACU	5	16	2.3	0.9	1.6
Viola sororia	3	FAC	3	15	1.4	0.9	1.1
Muhlenbergia mexicana	5	FACW	1	15	0.5	0.9	0.7
Lobelia siphilitica	4	OBL	1	15	0.5	0.9	0.7
Persicaria amphibia	4	OBL	2	13	0.9	0.7	0.8
Symphyotrichum lateriflorum	4	FACW	4	12	1.9	0.7	1.3
Acalypha rhomboidea	0	FACU	2	12	0.9	0.7	0.8
Nepeta cataria	0	FACU	2	11	0.9	0.6	0.8
Xanthium strumarium	0	FAC	3	10	1.4	0.6	1
Fallopia scandens	3	FAC	2	9	0.9	0.5	0.7
Rubus occidentalis	0	UPL	1	8	0.5	0.5	0.5
Panicum dichotomiflorum	0	FACW	3	7	1.4	0.4	0.9
Symphyotrichum pilosum	0	FACU	2	6	0.9	0.3	0.6
Arctium minus	0	FACU	1	5	0.5	0.3	0.4
Dipsacus laciniatus	0	UPL	1	5	0.5	0.3	0.4
Persicaria virginiana	4	FAC	1	5	0.5	0.3	0.4
Cryptotaenia canadensis	4	FAC	2	5	0.9	0.3	0.6
Carex bebbii	8	OBL	1	5	0.5	0.3	0.4
Muhlenbergia schreberi	0	FAC	1	5	0.5	0.3	0.4
Euphorbia cyparissias	0	UPL	1	5	0.5	0.3	0.4
Verbesina alternifolia	5	FACW	1	4	0.5	0.2	0.3
Carex blanda	1	FAC	1	4	0.5	0.2	0.3
Lythrum salicaria	0	OBL	2	4	0.9	0.2	0.6
Ulmus americana	3	FACW	1	4	0.5	0.2	0.3
Carex vulpinoidea	2	FACW	1	4	0.5	0.2	0.3
Rhamnus cathartica	0	FAC	1	4	0.5	0.2	0.3
Lysimachia nummularia	0	FACW	2	4	0.9	0.2	0.6
Alisma subcordatum	3	OBL	1	4	0.5	0.2	0.3
Schoenoplectus tabernaemontani	3	OBL	1	4	0.5	0.2	0.3
Geum canadense	1	FAC	1	3	0.5	0.2	0.3
Phytolacca americana	0	FACU	1	3	0.5	0.2	0.3
Ageratina altissima	3	FACU	1	3	0.5	0.2	0.3
Amaranthus retroflexus	0	FACU	2	3	0.9	0.2	0.6
Setaria pumila	0	FAC	2	3	0.9	0.2	0.6
Taraxacum officinale	0	FACU	2	3	0.9	0.2	0.6
Persicaria maculosa	0	FACW	1	3	0.5	0.2	0.3
Persicaria lapathifolia	0	FACW	1	3	0.5	0.2	0.3
Amaranthus tuberculatus	1	OBL	1	2	0.5	0.1	0.3
Setaria faberi	0	FACU	1	2	0.5	0.1	0.3
Chenopodium album	0	FACU	1	2	0.5	0.1	0.3
Calamagrostis canadensis	6	OBL	1	2	0.5	0.1	0.3
Plantago rugelii	0	FAC	1	2	0.5	0.1	0.3
Rumex triangulivalvis	0	FACW	1	2	0.5	0.1	0.3
Plantago major	0	FAC	1	2	0.5	0.1	0.3
Hackelia virginiana	1	FACU	1	1	0.5	0.1	0.3
Echinochloa crus-galli	0	FACW	1	1	0.5	0.1	0.3
Erigeron annuus	0	FACU	1	1	0.5	0.1	0.3
Monarda fistulosa	4	FACU	1	1	0.5	0.1	0.3
Prunella vulgaris ssp. lanceolata	1	FAC	1	1	0.5	0.1	0.3
			214	1750			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
euprug	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
agralb	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	-1
alisub	Alisma subcordatum	Alisma subcordatum	American Water-Plantain	3	OBL	-2
amaret	Amaranthus retroflexus	AMARANTHUS RETROFLEXUS	Red-Root	0	FACU	1

amatub	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	-2
apocan	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	0
arcmin	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	1
bidcer	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	-2
bidfro	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	-1
calcan	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	-2
consep	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	0
cxbebb	Carex bebbii	Carex bebbii	Bebb's Sedge	8	OBL	-2
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	0
cxvulp	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	-1
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	1
crycan	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	0
diplac	Dipsacus laciniatus	DIPSACUS LACINIATUS	Cut-Leaf Teasel	0	UPL	2
echcru	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	-1
elyvil	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	1
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
eriann	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	1
eupser	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	0
EUPCYP	Euphorbia cyparissias	EUPHORBIA CYPARISSIAS	Cypress Spurge	0	UPL	2
polsca	Fallopia scandens	Polygonum scandens; Fallopia cristata	Climbing Black-Bindweed	3	FAC	0
geucan	Geum canadense	Geum canadense	White Avens	1	FAC	0
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
hacvir	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	1
helaut	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	-1
leeory	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	-2
leocar	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	2
lobsip	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	-2
lysnum	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	-1
lytsal	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife	0	OBL	-2
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
muhmex	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	-1
muhsch	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0
nepcat	Nepeta cataria	NEPETA CATARIA	Catnip	0	FACU	1
oxastr	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
pandic	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	-1
parqui	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	1
peramp	Persicaria amphibia	Polygonum coccineum; Polygonum amphibium stipulaceum	Water Smartweed	4	OBL	-2
polhyd	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	-2
pollap	Persicaria lapathifolia	Polygonum lapathifolium; POLYGONUM SCABRUM	Dock-Leaf Smartweed	0	FACW	-1
polper	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	-1
polpen	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
polvir	Persicaria virginiana	Polygonum virginianum	Jumpseed	4	FAC	0
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
phyvir	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1
phyame	Phytolacca americana	Phytolacca americana	American Pokeweed	0	FACU	1
pilfon	Pilea fontana	Pilea fontana	Lesser Clearweed	7	FACW	-1
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	0
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
pruvull	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	0
rhacat	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	0
rubocc	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	2
rudlac	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	-1
rudtri	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
rummex	Rumex triangulivalvis	Rumex mexicanus	Triangular-Valved Dock	0	FACW	-1
sangre	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	0
scivac	Schoenoplectus tabernaemontani	Scirpus validus creber	Soft-Stem Club-Rush	3	OBL	-2
setfab	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	1
setpum	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	1
ulmame	Ulmus americana	Ulmus americana	American Elm	3	FACW	-1
urtdio	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	-1
veralt	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	-1
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0
xanstr	Xanthium strumarium	Xanthium strumarium var. canadense; Xanthium strumarium var. glabratum	Rough Cockleburr	0	FAC	0
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	0

TRANSECT STRING

>	
QUAD	1
SPECIES	COVER
elyvil	40
geucan	3
leocar	8
parqui	2
phyame	3
sangre	15
>	
QUAD	2
SPECIES	COVER
euprug	3

hacvir	1
parqui	8
rudtri	6
>	
QUAD	3
SPECIES	COVER
arcmin	5
glehed	3
rudtri	50
sangre	3
solcan	20
viosor	10
>	
QUAD	4
SPECIES	COVER
amatub	2
consep	10
elyvir	5
eupser	5
phaaru	3
polhyd	3
polsca	5
rubocc	8
rudlac	5
rudtri	25
urtdio	6
>	
QUAD	5
SPECIES	COVER
amaret	2
astsim	5
bidcer	10
bidfro	50
echcru	1
elyvir	3
eupser	4
leeory	2
pandic	3
polhyd	20
setfab	2
setpum	1
urtdio	2
>	
QUAD	6
SPECIES	COVER
astpil	2
astsim	50
chealb	2
consep	5
elyvir	8
eupser	5
leeory	2
phyvir	6
polhyd	4
rudtri	4
urtdio	8
veralt	4
>	
QUAD	7
SPECIES	COVER
astlat	3
astsim	6
cxblan	4
elyvir	4
eupser	12
helaut	5
polhyd	5
polpen	4
rudlac	40
urtdio	15
>	
QUAD	8
SPECIES	COVER
astsim	5
bidcer	3
BIDFRO	4
consep	2
diplac	5
eupser	8
lytsal	3
oxastr	4
phaaru	3
polhyd	3
rudtri	20
setpum	2
ulmame	4
viosor	3
xanstr	2
>	

QUAD	9
SPECIES	COVER
astsim	6
consep	5
elyvir	4
eupser	8
helaut	6
nepcat	3
oxastr	4
polhyd	10
polpen	6
rudtri	3
>	
QUAD	10
SPECIES	COVER
astpil	4
astsim	40
cxvulp	4
elyvir	6
eupser	10
leocar	6
muhmex	15
phaaru	5
rudlac	8
solcan	8
>	
QUAD	11
SPECIES	COVER
astsim	20
eupser	4
helaut	10
leocar	5
nepcat	8
phaaru	3
>	
QUAD	12
SPECIES	COVER
astlat	3
elyvir	2
glehed	4
leeory	2
parqui	6
polvir	5
rudlac	60
>	
QUAD	13
SPECIES	COVER
crycan	1
glehed	2
rhacat	4
rudlac	6
viosor	2
>	
QUAD	14
SPECIES	COVER
agralb	15
elyvir	12
glehed	5
parqui	5
rudlac	20
solcan	3
taroff	2
>	
QUAD	15
SPECIES	COVER
bidcer	3
cxbebb	5
elyvir	15
eupser	1
leeory	2
pandic	2
peramp	3
phyvir	20
polper	3
>	
QUAD	16
SPECIES	COVER
agralb	10
bidcer	4
bidfro	1
calcan	2
elyvir	
eupser	5
helaut	2
lobsip	15
lysnum	3
pandic	2
polhyd	5
rudtri	1

>	
QUAD	17
SPECIES	COVER
agralb	4
bidfro	2
crycan	4
elyvir	15
eupser	2
lysnum	1
peramp	10
polhyd	5
rudlac	12
rudtri	1
>	
QUAD	18
SPECIES	COVER
apocan	10
astsim	5
elyvir	30
eriann	1
leocar	3
monfis	1
muhsch	5
oxastr	1
phyvir	15
plarug	2
rudlac	5
rudtri	3
rummex	2
solcan	5
>	
QUAD	19
SPECIES	COVER
acarho	2
apocan	10
astlat	2
bidfro	1
elyvir	10
glehed	3
oxastr	3
phyvir	85
pilfon	3
taroff	1
>	
QUAD	20
SPECIES	COVER
alisub	4
astsim	40
EUPCYP	5
leeory	20
lytsal	1
phaaru	3
phyvir	3
pilfon	10
polhyd	5
pollap	3
scivac	4
xanstr	5
zizaur	40
>	
QUAD	21
SPECIES	COVER
astsim	70
bidcer	2
bidfro	10
consep	2
leeory	2
pilfon	5
polhyd	12
xanstr	3
>	
QUAD	22
SPECIES	COVER
acarho	10
amaret	1
astlat	4
elyvir	3
eupser	7
glehed	1
leeory	3
oxastr	4
plamaj	2
polhyd	30
polpen	10
polsca	4
pruvull	1
rudlac	40
rudtri	10
urtdio	2

SITE: WCERT
LOCALE: Reach 8B
BY: MO, WO, MP, WS
NOTES: 9/18/2018

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T1-1	2.29	2.29	6.05	6.05	0.43	0.43	7	7
T1-10	1.6	1.14	3.58	3.02	-0.8	-0.29	5	7
T1-11	2.43	2.13	6.43	6.01	-1.14	-1.13	7	8
T1-2	2.5	2.14	6.12	5.67	0	0.14	6	7
T1-3	1.9	1.73	6.01	5.73	-0.3	-0.27	10	11
T1-4	2.88	2.09	8.13	6.93	-0.5	-0.36	8	11
T1-5	2.8	2.33	6.26	5.72	-1	-1	5	6
T1-6	1.67	1.43	4.08	3.78	-1.67	-1.57	6	7
T1-7	4.25	4.25	12.02	12.02	-1.38	-1.38	8	8
T1-8	2.25	2.25	4.5	4.5	-1	-1	4	4
T1-9	3.33	3.33	5.77	5.77	-1.33	-1.33	3	3
T2-1	2	1.71	4.9	4.54	-1.33	-1.43	6	7
T2-2	2.25	1	4.5	3	-0.75	0	4	9
T2-3	2.6	1.63	5.81	4.6	0.2	0.63	5	8
T2-4	3	3	6	6	0	0	4	4
T2-5	4.33	2.89	10.61	8.67	0.33	0.44	6	9
T3-1	3.1	2.58	9.8	8.95	0.3	0.33	10	12
T3-10	5.75	3.29	11.5	8.69	1.5	1.14	4	7
T3-11	3	2	6	4.9	1	0.67	4	6
T3-12	3.86	3	10.21	9	0.86	0.78	7	9
T3-13	3.25	1.86	6.5	4.91	0.25	0.57	4	7
T3-14	2.82	2.58	9.35	8.95	-0.36	-0.17	11	12
T3-15	3.5	2.8	7	6.26	1.25	1.2	4	5
T3-16	5.4	4.5	12.07	11.02	0.8	0.67	5	6
T3-17	3	2.57	7.35	6.8	0.5	0.43	6	7
T3-18	2.8	2.8	6.26	6.26	1.2	1.2	5	5
T3-19	2.83	1.89	6.94	5.67	1	1	6	9
T3-2	3.89	2.69	11.67	9.71	0.78	0.54	9	13
T3-20	2.71	2.11	7.18	6.33	1	0.89	7	9
T3-21	3.83	1.92	9.39	6.64	0.83	0.67	6	12
T3-22	1.67	0.5	2.89	1.58	0.67	0.7	3	10
T3-23	3.33	2.31	10	8.32	0.89	0.77	9	13
T3-24	2	1.33	2.83	2.31	0	0	2	3
T3-25	4.5	1.8	6.36	4.02	1	0.6	2	5
T3-26	3.14	2.44	8.32	7.33	0.43	0.56	7	9
T3-27	2.33	1.56	5.72	4.67	1	0.67	6	9
T3-28	1.86	1.44	4.91	4.33	0.43	0.56	7	9
T3-29	2.86	2	7.56	6.32	0.43	0.6	7	10
T3-3	4	2.22	8.94	6.67	1	0.67	5	9
T3-30	4.5	1.8	6.36	4.02	1.5	1	2	5
T3-31	2.25	1.13	4.5	3.18	1.25	0.75	4	8
T3-32	2.4	1.2	5.37	3.79	0.4	0.6	5	10
T3-33	2.43	1.42	6.43	4.91	0.57	0.75	7	12
T3-34	2.67	1.78	6.53	5.33	1	1.11	6	9
T3-35	3.13	2.08	8.84	7.22	1.13	1.08	8	12
T3-4	2.6	1.63	5.81	4.6	1.2	0.88	5	8
T3-5	3.17	3.17	7.76	7.76	0.67	0.67	6	6
T3-6	2.38	1.9	6.72	6.01	0.75	1	8	10
T3-7	4.5	1.8	6.36	4.02	1	0.6	2	5
T3-8	3.6	3	8.05	7.35	0.8	0.67	5	6
T3-9	3.2	2.67	10.12	9.24	0.8	0.75	10	12
T4-1	3.6	2.57	8.05	6.8	0.8	0.86	5	7
T4-10	3.33	2.5	8.16	7.07	0.83	0.88	6	8
T4-11	2.33	2	5.72	5.29	1.17	1	6	7
T4-12	4	4	8	8	1.25	1.25	4	4
T4-13	3.2	2	7.16	5.66	-0.2	0	5	8
T4-14	2.71	2.38	7.18	6.72	1	0.88	7	8
T4-15	2.14	1.67	5.67	5	1	0.89	7	9
T4-16	2	1.4	5.29	4.43	0.57	0.5	7	10
T4-17	3.17	2.11	7.76	6.33	0.5	0.67	6	9
T4-18	2.43	1.7	6.43	5.38	1	0.6	7	10
T4-19	2.5	1.25	3.54	2.5	1	0.5	2	4
T4-2	3.25	2.6	6.5	5.81	0.5	0.6	4	5
T4-20	2.5	1.67	3.54	2.89	1	0.67	2	3
T4-21	2.8	1.75	6.26	4.95	1.2	0.63	5	8
T4-22	2	1.5	4.9	4.24	1.17	1.13	6	8
T4-23	3.4	2.43	7.6	6.43	0.8	0.71	5	7
T4-24	1.8	1.5	4.02	3.67	0.8	0.83	5	6
T4-25	2.4	1.33	5.37	4	1	1.11	5	9
T4-26	7	4.67	9.9	8.08	2	1.67	2	3
T4-27	1.5	0.55	3	1.81	0.25	0.36	4	11
T4-28	1.75	0.88	3.5	2.47	0.75	1	4	8
T4-29	0	0	0	0	0	1.17	1	6
T4-3	2.71	1.73	7.18	5.73	0.71	0.55	7	11
T4-30	1.2	1	2.68	2.45	1.4	1.33	5	6
T4-31	2	1.6	5.66	5.06	0.75	0.5	8	10
T4-4	2.6	2.17	5.81	5.31	0.6	0.5	5	6
T4-5	2.2	1.57	4.92	4.16	0.8	0.57	5	7
T4-6	2	1.5	3.46	3	1	0.75	3	4

T4-7	2.71	2.38	7.18	6.72	1.14	1.25	7	8
T4-8	2.83	2.43	6.94	6.43	1	0.86	6	7
T4-9	3.8	3.17	8.5	7.76	0.8	0.67	5	6
T5-1	2.63	2.33	10.5	9.9	-0.13	0.06	16	18
T5-2	3.75	3	10.61	9.49	-0.63	-0.3	8	10
T5-3	5.33	3.2	9.24	7.16	-0.33	-0.2	3	5
T5-4	3.56	3.2	10.67	10.12	-0.56	-0.4	9	10
T5-5	2	1.56	5.29	4.67	-0.57	-0.44	7	9
T5-6	2.43	1.89	6.43	5.67	-0.71	-0.56	7	9
T6-1	2.57	2.4	9.62	9.3	0.43	0.33	14	15
T6-2	2	1.71	4.9	4.54	-0.5	-0.29	6	7
T6-3	2.67	2.29	6.53	6.05	0	-0.14	6	7
T6-4	2.89	2.89	8.67	8.67	-0.33	-0.33	9	9
T6-5	1.86	1.86	4.91	4.91	0.43	0.43	7	7
T6-6	2.88	2.88	8.13	8.13	0.5	0.5	8	8
T7-1	1	0.57	2.83	2.14	0.63	0.79	8	14
T7-10	2.25	1.8	6.36	5.69	-0.25	-0.2	8	10
T7-11	2.6	2.6	5.81	5.81	-0.4	-0.4	5	5
T7-12	1.78	1.33	5.33	4.62	0.11	0.08	9	12
T7-13	2.5	2.14	6.12	5.67	0.33	0.43	6	7
T7-2	2	1.56	5.29	4.67	0.71	0.56	7	9
T7-3	2.29	1.78	6.05	5.33	0.86	0.56	7	9
T7-4	3.2	3.2	10.12	10.12	0.6	0.6	10	10
T7-5	3.43	3.43	12.83	12.83	0.5	0.5	14	14
T7-6	2.6	2.17	8.22	7.51	0.3	0.33	10	12
T7-7	1.89	1.7	5.67	5.38	0.11	0.2	9	10
T7-8	2.93	2.93	10.96	10.96	-0.21	-0.21	14	14
T7-9	3	3	7.35	7.35	-0.33	-0.33	6	6
T8-1	3	3	5.2	5.2	-0.67	-0.67	3	3
T8-2	2.75	2.2	5.5	4.92	0.5	0.2	4	5
T8-3	2.29	1.78	6.05	5.33	-0.43	-0.33	7	9
T8-4	3.2	1.6	7.16	5.06	-0.4	-0.2	5	10
T8-5	2.78	2.08	8.33	7.22	-0.22	-0.08	9	12
T8-6	3.17	2.11	7.76	6.33	0	0.11	6	9
T8-7	2.43	1.89	6.43	5.67	0.29	0.33	7	9
T8-8	3.33	2.5	8.16	7.07	0.33	0.63	6	8
AVG	2.83	2.14	6.83	5.97	0.38	0.38	6.21	8.25
STD	0.95	0.79	2.31	2.25	0.72	0.63	2.59	2.81

TRANSECT SUMMARY

C	NUMBER					
0	20				123	NATIVE SPECIES
1	15				166	TOTAL SPECIES
2	11				3.28	NATIVE MEAN C
3	19	0:	16.26%		2.43	W/Adventives
4	23	1 to 3:	36.59%		36.34	NATIVE FQI
5	20	4 to 6:	36.59%		31.28	W/Adventives
6	2	7 to 10:	10.57%		-0.04	NATIVE MEAN W
7	4				0.14	W/Adventives
8	6					
9	1					
10	2					

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	123	74.10%	ADVENTIVE	43	25.90%
Tree	6	3.61%	Tree	3	1.81%
Shrub	6	3.61%	Shrub	6	3.61%
Vine	4	2.41%	Vine	0	0.00%
Forb	79	47.59%	Forb	23	13.86%
Grass	20	12.05%	Grass	11	6.63%
Sedge	8	4.82%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Tree	11	45	1.2	0.4	0.8
N Shrub	9	62	0.9	0.6	0.8
N Vine	23	160	2.4	1.5	2
N Forb	461	4768	48.6	44.9	46.8
N Grass	183	3362	19.3	31.7	25.5
N Sedge	27	234	2.8	2.2	2.5
A Tree	3	13	0.3	0.1	0.2
A Shrub	16	129	1.7	1.2	1.5
A Forb	89	456	9.4	4.3	6.8
A Grass	127	1379	13.4	13	13.2

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Solidago canadensis	1	FACU	65	1290	6.8	12.2	9.5
Sorghastrum nutans	5	FACU	52	1261	5.5	11.9	8.7
Elymus virginicus	3	FACW	39	1040	4.1	9.8	7
Symphyotrichum lanceolatum	3	FAC	18	555	1.9	5.2	3.6
Poa pratensis	0	FAC	37	497	3.9	4.7	4.3
Monarda fistulosa	4	FACU	35	386	3.7	3.6	3.7
Andropogon gerardii	5	FAC	20	385	2.1	3.6	2.9
Setaria pumila	0	FAC	31	347	3.3	3.3	3.3
Agrostis gigantea	0	FACW	15	294	1.6	2.8	2.2
Schizachyrium scoparium	5	FACU	16	232	1.7	2.2	1.9
Elymus canadensis	4	FACU	24	209	2.5	2	2.2
Persicaria hydropiper	2	OBL	8	200	0.8	1.9	1.4
Ratibida pinnata	4	UPL	35	198	3.7	1.9	2.8
Rudbeckia triloba	1	FACU	6	140	0.6	1.3	1
Ambrosia artemisiifolia	0	FACU	33	122	3.5	1.2	2.3
Carex blanda	1	FAC	18	120	1.9	1.1	1.5
Symphyotrichum pilosum	0	FACU	27	110	2.8	1	1.9
Ambrosia trifida	0	FAC	16	105	1.7	1	1.3
Setaria faberi	0	FACU	16	105	1.7	1	1.3
Apocynum cannabinum	2	FAC	1	100	0.1	0.9	0.5
Solidago gigantea	4	FACW	6	92	0.6	0.9	0.7
Bidens frondosa	1	FACW	3	90	0.3	0.8	0.6
Helianthus tuberosus	3	FACU	3	90	0.3	0.8	0.6
Plantago major	0	FAC	2	88	0.2	0.8	0.5
Symphyotrichum lateriflorum	4	FACW	19	87	2	0.8	1.4
Ageratina altissima	3	FACU	8	79	0.8	0.7	0.8
Bidens cernua	3	OBL	6	76	0.6	0.7	0.7
Carex vulpinoidea	2	FACW	3	73	0.3	0.7	0.5
Solidago rigida	3	FACU	5	64	0.5	0.6	0.6
Eupatorium serotinum	0	FAC	9	62	0.9	0.6	0.8
Parthenocissus quinquefolia	4	FACU	8	61	0.8	0.6	0.7
Physostegia virginiana	4	FACW	2	60	0.2	0.6	0.4
Juncus dudleyi	2	FACW	4	55	0.4	0.5	0.5
Pycnanthemum virginianum	5	FACW	5	53	0.5	0.5	0.5
Verbesina alternifolia	5	FACW	5	53	0.5	0.5	0.5
Vitis riparia	1	FACW	7	53	0.7	0.5	0.6
Melilotus albus	0	UPL	13	52	1.4	0.5	0.9
Panicum virgatum	3	FAC	5	50	0.5	0.5	0.5
Muhlenbergia mexicana	5	FACW	1	50	0.1	0.5	0.3
Amaranthus retroflexus	0	FACU	6	49	0.6	0.5	0.5
Euthamia graminifolia	4	FACW	6	49	0.6	0.5	0.5
Trifolium repens	0	FACU	9	48	0.9	0.5	0.7
Viburnum dentatum	0	FAC	6	47	0.6	0.4	0.5
Cryptotaenia canadensis	4	FAC	2	45	0.2	0.4	0.3
Toxicodendron radicans	2	FAC	7	44	0.7	0.4	0.6
Sambucus nigra ssp. canadensis	4	FAC	3	43	0.3	0.4	0.4
Phalaris arundinacea	0	FACW	11	42	1.2	0.4	0.8
Coreopsis tripteris	5	FAC	4	41	0.4	0.4	0.4
Cirsium arvense	0	FACU	10	40	1.1	0.4	0.7
Rudbeckia laciniata	4	FACW	3	39	0.3	0.4	0.3
Viola sororia	3	FAC	5	37	0.5	0.3	0.4
Eriochloa villosa	0	UPL	10	37	1.1	0.3	0.7
Trifolium hybridum	0	FACU	7	37	0.7	0.3	0.5
Silphium laciniatum	5	UPL	2	37	0.2	0.3	0.3
Bromus inermis	0	FACU	3	33	0.3	0.3	0.3
Geum canadense	1	FAC	8	33	0.8	0.3	0.6
Leersia oryzoides	3	OBL	7	31	0.7	0.3	0.5
Daucus carota	0	UPL	11	28	1.2	0.3	0.7
Persicaria pensylvanica	0	FACW	5	27	0.5	0.3	0.4
Symphyotrichum novae-angliae	3	FACW	2	25	0.2	0.2	0.2
Carex frankii	4	OBL	1	25	0.1	0.2	0.2
Lonicera maackii	0	UPL	1	25	0.1	0.2	0.2
Glechoma hederacea	0	FACU	4	24	0.4	0.2	0.3
Pycnanthemum tenuifolium	7	FAC	3	23	0.3	0.2	0.3
Asclepias syriaca	0	FACU	3	23	0.3	0.2	0.3
Muhlenbergia schreberi	0	FAC	2	23	0.2	0.2	0.2
Verbena urticifolia	2	FAC	6	22	0.6	0.2	0.4
Rudbeckia hirta	1	FACU	9	21	0.9	0.2	0.6
Eupatorium altissimum	0	UPL	4	21	0.4	0.2	0.3
Pilea fontana	7	FACW	5	20	0.5	0.2	0.4
Symphyotrichum drummondii	3	UPL	5	20	0.5	0.2	0.4
Rhamnus cathartica	0	FAC	3	20	0.3	0.2	0.3
Panicum capillare	0	FAC	2	17	0.2	0.2	0.2
Prunella vulgaris ssp. lanceolata	1	FAC	4	17	0.4	0.2	0.3
Cinna arundinacea	5	FACW	2	17	0.2	0.2	0.2
Fraxinus pennsylvanica	4	FACW	3	16	0.3	0.2	0.2
Persicaria maculosa	0	FACW	4	15	0.4	0.1	0.3
Oxalis stricta	0	FACU	5	15	0.5	0.1	0.3
Arctium minus	0	FACU	1	15	0.1	0.1	0.1
Schedonorus pratensis	0	FACU	1	15	0.1	0.1	0.1
Lonicera tatarica	0	FACU	2	15	0.2	0.1	0.2
Bouteloua curtipendula	8	UPL	2	13	0.2	0.1	0.2
Persicaria lapathifolia	0	FACW	3	12	0.3	0.1	0.2
Juncus torreyi	2	FACW	2	12	0.2	0.1	0.2

Rosa multiflora	0	FACU	1	12	0.1	0.1	0.1
Urtica dioica ssp. gracilis	1	FACW	3	11	0.3	0.1	0.2
Taraxacum officinale	0	FACU	5	11	0.5	0.1	0.3
Echinacea purpurea	10	UPL	5	11	0.5	0.1	0.3
Hackelia virginiana	1	FACU	4	10	0.4	0.1	0.3
Vernonia fasciculata	8	FACW	1	10	0.1	0.1	0.1
Acorus calamus	0	OBL	1	10	0.1	0.1	0.1
Celtis occidentalis	2	FAC	3	10	0.3	0.1	0.2
Viburnum opulus var. opulus	0	FAC	3	10	0.3	0.1	0.2
Campanulastrum americanum	4	FAC	2	9	0.2	0.1	0.1
Carya cordiformis	5	FACU	2	9	0.2	0.1	0.1
Lycopus americanus	4	OBL	1	8	0.1	0.1	0.1
Medicago lupulina	0	FACU	5	8	0.5	0.1	0.3
Phragmites australis ssp. americanus	3	FACW	1	8	0.1	0.1	0.1
Elymus villosus	5	FACU	1	8	0.1	0.1	0.1
Helenium autumnale	5	FACW	1	7	0.1	0.1	0.1
Galium aparine	0	FACU	4	7	0.4	0.1	0.2
Morus alba	0	FAC	1	7	0.1	0.1	0.1
Plantago lanceolata	0	FACU	2	6	0.2	0.1	0.1
Spartina pectinata	4	FACW	2	6	0.2	0.1	0.1
Rubus occidentalis	0	UPL	1	6	0.1	0.1	0.1
Panicum dichotomiflorum	0	FACW	2	5	0.2	.	0.1
Boltonia asteroides	8	OBL	1	5	0.1	.	0.1
Lactuca serriola	0	FACU	1	5	0.1	.	0.1
Plantago rugelii	0	FAC	3	5	0.3	.	0.2
Poa compressa	0	FACU	1	5	0.1	.	0.1
Scirpus atrovirens	4	OBL	1	5	0.1	.	0.1
Eutrochium purpureum	6	FAC	1	5	0.1	.	0.1
Sanicula canadensis	5	FACU	1	5	0.1	.	0.1
Dasistoma macrophylla	8	FACU	1	5	0.1	.	0.1
Asarum canadense	10	FACU	1	5	0.1	.	0.1
Persicaria virginiana	4	FAC	1	5	0.1	.	0.1
Ulmus americana	3	FACW	1	5	0.1	.	0.1
Chenopodium album	0	FACU	1	4	0.1	.	0.1
Schoenoplectus fluviatilis	4	OBL	1	4	0.1	.	0.1
Symphyotrichum laeve	9	FACU	1	4	0.1	.	0.1
Cornus racemosa	1	FAC	1	4	0.1	.	0.1
Rudbeckia subtomentosa	8	FACU	1	4	0.1	.	0.1
Carex scoparia	5	FACW	1	4	0.1	.	0.1
Malus toringa	0	UPL	1	4	0.1	.	0.1
Myosoton aquaticum	0	FACW	1	4	0.1	.	0.1
Circaea canadensis	3	FACU	1	4	0.1	.	0.1
Lactuca biennis	5	FAC	2	4	0.2	.	0.1
Ribes missouriense	2	UPL	2	4	0.2	.	0.1
Zizia aurea	5	FAC	1	3	0.1	.	0.1
Acalypha rhomboidea	0	FACU	2	3	0.2	.	0.1
Amaranthus tuberculatus	1	OBL	1	3	0.1	.	0.1
Acer saccharinum	1	FACW	1	3	0.1	.	0.1
Pilea pumila	2	FACW	2	3	0.2	.	0.1
Artemisia vulgaris	0	UPL	1	3	0.1	.	0.1
Rosa setigera	5	FACU	1	3	0.1	.	0.1
Heliopsis helianthoides	7	FACU	1	3	0.1	.	0.1
Sporobolus vaginiflorus	1	UPL	1	3	0.1	.	0.1
Phryma leptostachya	6	UPL	1	3	0.1	.	0.1
Teucrium canadense	3	FACW	1	3	0.1	.	0.1
Impatiens capensis	3	FACW	1	3	0.1	.	0.1
Achillea millefolium	0	FACU	1	3	0.1	.	0.1
Echinochloa crus-galli	0	FACW	2	2	0.2	.	0.1
Eclipta prostrata	0	FACW	1	2	0.1	.	0.1
Ulmus pumila	0	UPL	1	2	0.1	.	0.1
Elymus repens	0	FACU	1	2	0.1	.	0.1
Bromus tectorum	0	UPL	1	2	0.1	.	0.1
Erigeron annuus	0	FACU	2	2	0.2	.	0.1
Sinapis arvensis	0	UPL	1	2	0.1	.	0.1
Carex cristatella	4	FACW	1	2	0.1	.	0.1
Smilax lasioneuron	5	UPL	1	2	0.1	.	0.1
Juglans nigra	3	FACU	1	2	0.1	.	0.1
Rubus allegheniensis	3	FACU	1	2	0.1	.	0.1
Lactuca floridana	8	FACU	1	2	0.1	.	0.1
Lysimachia nummularia	0	FACW	1	2	0.1	.	0.1
Epilobium coloratum	3	OBL	1	2	0.1	.	0.1
Leersia virginica	5	FACW	1	1	0.1	.	0.1
Persicaria punctata	4	OBL	1	1	0.1	.	0.1
Glyceria striata	4	OBL	1	1	0.1	.	0.1
Carex tribuloides	7	OBL	1	1	0.1	.	0.1
Capsella bursa-pastoris	0	FACU	1	1	0.1	.	0.1
Asclepias verticillata	1	FACU	1	1	0.1	.	0.1
Oenothera biennis	0	FACU	1	1	0.1	.	0.1
Abutilon theophrasti	0	FACU	1	1	0.1	.	0.1
Eutrochium maculatum	5	OBL	1	1	0.1	.	0.1
Hypericum punctatum	4	FAC	1	1	0.1	.	0.1
Agrimonia gryposepala	2	FACU	1	1	0.1	.	0.1
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TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
abuthe	Abutilon theophrasti	ABUTILON THEOPHRASTI	Velvetleaf	0	FACU	1
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
acesai	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	-1
achmil	Achillea millefolium	ACHILLEA MILLEFOLIUM	Common Yarrow	0	FACU	1
acocal	Acorus calamus	Acorus calamus	Single-Vein Sweetflag	0	OBL	-2
euprug	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
agrgry	Agrimonia gryposepala	Agrimonia gryposepala	Tall Hairy Grooveburr	2	FACU	1
agralb	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	-1
AMARET	Amaranthus retroflexus	AMARANTHUS RETROFLEXUS	Red-Root	0	FACU	1
amatub	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	-2
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
ambtri	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	0
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
apocan	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	0
arcmin	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	1
artvul	Artemisia vulgaris	ARTEMISIA VULGARIS	Common Mugwort	0	UPL	2
asacan	Asarum canadense	Asarum canadense	Canadian Wild Ginger	10	FACU	1
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	1
ascver	Asclepias verticillata	Asclepias verticillata	Whorled Milkweed	1	FACU	1
bidcer	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	-2
bidfro	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	-1
bolast	Boltonia asteroides	Boltonia latisquama recognita	White Doll's Daisy	8	OBL	-2
boucur	Bouteloua curtipendula	Bouteloua curtipendula	Side-Oats Grama	8	UPL	2
broine	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	1
brotec	Bromus tectorum	BROMUS TECTORUM	Downy Chess	0	UPL	2
camame	Campanulastrum americanum	Campanula americana	American-Bellflower	4	FAC	0
capbur	Capsella bursa-pastoris	CAPSELLA BURSA-PASTORIS	Shepherd's-Purse	0	FACU	1
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	0
cxcris	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	-1
cxfran	Carex frankii	Carex frankii	Frank's Sedge	4	OBL	-2
cxscop	Carex scoparia	Carex scoparia	Pointed Broom Sedge	5	FACW	-1
cxtrib	Carex tribuloides	Carex tribuloides	Blunt Broom Sedge	7	OBL	-2
cxvulp	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	-1
carcor	Carya cordiformis	Carya cordiformis	Bitter-Nut Hickory	5	FACU	1
celocc	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	0
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	1
cinaru	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	-1
cirlut	Circaea canadensis	Circaea lutetiana canadensis	Broad-Leaf Enchanter's-Nightshade	3	FACU	1
cirarv	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	1
cortri	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	0
corrac	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	0
crycan	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	0
dasmac	Dasistoma macrophylla	Seymeria macrophylla	Mullein-Foxglove	8	FACU	1
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	2
echpur	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	2
echcru	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	-1
eclpro	Eclipta prostrata	ECLIPTA PROSTRATA	False Daisy	0	FACW	-1
elycan	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
agrrep	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	1
elyvil	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	1
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
epicol	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	-2
eriann	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	1
erivil	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	2
eupalt	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
eupser	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	0
solgra	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	-1
eupmac	Eutrochium maculatum	Eupatorium maculatum	Spotted Trumpetweed	5	OBL	-2
euppur	Eutrochium purpureum	Eupatorium purpureum	Sweet-Scented Joe-Pye-Weed	6	FAC	0
frapen	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	-1
galapa	Galium aparine	Galium spurium	Sticky-Willy	0	FACU	1
geucan	Geum canadense	Geum canadense	White Avens	1	FAC	0
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
glystr	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	-2
hacvir	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	1
helaut	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	-1
heltub	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	1
helhel	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	1
hyppun	Hypericum punctatum	Hypericum punctatum	Spotted St. John's-Wort	4	FAC	0
impcap	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	-1
jugnig	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	1
jundud	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	-1
juntor	Juncus torreyi	Juncus torreyi	Torrey's Rush	2	FACW	-1
lacbie	Lactuca biennis	Lactuca biennis	Wild Blue Lettuce	5	FAC	0
lacflo	Lactuca floridana	Lactuca floridana	Woodland Lettuce	8	FACU	1
lacser	Lactuca serriola	LACTUCA SERRIOLA	Prickly Lettuce	0	FACU	1
leeory	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	-2
leevir	Leersia virginica	Leersia virginica	White Grass	5	FACW	-1
lonmaa	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	2
lontat	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	1
lycame	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	-2
lysnum	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	-1
malsie	Malus toringa	MALUS SIEBOLDII	Japanese Crab Apple	0	UPL	2
medlup	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	1
melalb	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	2

monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
moralb	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	0
muhmex	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	-1
muhsch	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0
myoaqu	Myosoton aquaticum	MYOSOTON AQUATICUM	Giant-Chickweed	0	FACW	-1
oenbie	Oenothera biennis	Oenothera biennis	King's-Cureall	0	FACU	1
oxastr	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
pancap	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	0
pandic	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	-1
panvir	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	0
parqui	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	1
polhyd	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	-2
pollap	Persicaria lapathifolia	Polygonum lapathifolium; POLYGONUM SCABRUM	Dock-Leaf Smartweed	0	FACW	-1
polper	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	-1
polpen	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
polpun	Persicaria punctata	Polygonum punctatum	Dotted Smartweed	4	OBL	-2
polvir	Persicaria virginiana	Polygonum virginianum	Jumpseed	4	FAC	0
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
phrausm	Phragmites australis ssp. americanus	Phragmites americanus	Common Reed	3	FACW	-1
phrlep	Phryma leptostachya	Phryma leptostachya	Lopseed	6	UPL	2
phyvir	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1
pilfon	Pilea fontana	Pilea fontana	Lesser Clearweed	7	FACW	-1
pilpum	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	-1
plalan	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	1
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	0
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
poacom	Poa compressa	POA COMPRESSA	Flat-Stem Blue Grass	0	FACU	1
poapra	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
pruvull	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	0
pycten	Pycnanthemum tenuifolium	Pycnanthemum tenuifolium	Narrow-Leaf Mountain-Mint	7	FAC	0
pycvir	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	-1
ratpin	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	2
rhacat	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	0
ribmis	Ribes missouriense	Ribes missouriense	Missouri Gooseberry	2	UPL	2
rosmul	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	1
rosset	Rosa setigera	Rosa setigera var. tomentosa	Climbing Rose	5	FACU	1
ruball	Rubus allegheniensis	Rubus allegheniensis	Allegheny Blackberry	3	FACU	1
rubocc	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	2
rudhir	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	1
rudlac	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	-1
rudsub	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	1
rudtri	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
samcan	Sambucus nigra ssp. canadensis	Sambucus canadensis	Black Elder	4	FAC	-1
sancaa	Sanicula canadensis	Sanicula canadensis	Canadian Black-Snakeroot	5	FACU	1
fesela	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	1
schsco	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	1
sciflu	Schoenoplectus fluviatilis	Scirpus fluviatilis; Bolboschoenus fluviatilis	River Club-Rush	4	OBL	-2
sciatv	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	-2
setfab	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	1
setgla	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
sillac	Silphium laciniatum	Silphium laciniatum	Compass-Plant	5	UPL	2
brakab	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	2
smilas	Smilax lasioneuron	Smilax lasioneura	Common Carrion Flower	5	UPL	2
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
solgig	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	-1
solrig	Solidago rigida	Oligoneuron rigidum	Hard-Leaf Flat-Top-Goldenrod	3	FACU	1
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
spapec	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	-1
spovag	Sporobolus vaginiflorus	Sporobolus vaginiflorus	Poverty Dropseed	1	UPL	2
astsagd	Symphyotrichum drummondii	Aster sagittifolius drummondii	Drummond's Aster	3	UPL	2
astlae	Symphyotrichum laeve	Aster laevis	Smooth Blue American-Aster	9	FACU	1
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
astnov	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	-1
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	1
teucan	Teucrium canadense	Teucrium canadense	American Germander	3	FACW	-1
rhurad	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	0
trihyb	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
trirep	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	1
ulmame	Ulmus americana	Ulmus americana	American Elm	3	FACW	-1
ulmpum	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	2
urtdio	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	-1
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
veralt	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	-1
verfas	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	-1
vibden	Viburnum dentatum	VIBURNUM DENTATUM VAR. SCABRELLUM	Southern Arrow-Wood	0	FAC	0
vibopu	Viburnum opulus var. opulus	VIBURNUM OPULUS	Highbush-Cranberry	0	FAC	0
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0
vitrip	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	-1
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	0

TRANSECT STRING
>
QUAD 1

SPECIES	COVER
ambtri	2
astsim	5
euprug	1
hacvir	2
pilfon	3
rudtri	100
solcan	10
>	
QUAD	2
SPECIES	COVER
AMARET	3
astsim	65
chealb	4
echcru	1
helaut	7
pollap	5
polpen	5
>	
QUAD	3
SPECIES	COVER
astsim	50
bidcer	10
pandic	2
polhyd	20
pollap	3
polper	1
sciflu	4
zizaur	3
>	
QUAD	4
SPECIES	COVER
astsim	100
glehed	5
hacvir	2
pilfon	7
polhyd	2
rudtri	5
solcan	2
>	
QUAD	5
SPECIES	COVER
acarho	2
astsim	100
bidcer	3
bidfro	1
oxastr	5
pilfon	5
plamaj	3
polhyd	8
rudtri	2
solcan	5
urtdio	8
>	
QUAD	6
SPECIES	COVER
amaret	2
ambart	3
astlat	7
eclpro	2
elyvir	10
eupser	3
leevir	1
oxastr	3
pilfon	2
plamaj	85
polpun	1
>	
QUAD	7
SPECIES	COVER
astlat	5
bidfro	85
polhyd	12
polper	3
solgra	1
viosor	12
>	
QUAD	8
SPECIES	COVER
amatub	3
bidcer	4
glystr	1
pandic	3
polhyd	85
polpen	12
polper	10
>	
QUAD	9
SPECIES	COVER

acesai	3
astsim	85
bidcer	7
cxtrib	1
leeory	2
pilfon	3
polhyd	8
verfas	10
>	
QUAD	10
SPECIES	COVER
astsim	50
bidcer	50
elyvir	1
pollap	4
>	
QUAD	11
SPECIES	COVER
phyvir	50
polhyd	5
rudlac	30
>	
QUAD	12
SPECIES	COVER
acocal	10
astsim	30
bidcer	2
bidfro	4
leeory	8
polhyd	60
polpen	5
>	
QUAD	13
SPECIES	COVER
arcmin	15
astsim	15
cirarv	2
elyvir	45
glehed	8
phaaru	4
pilpum	2
taroff	2
urtdio	2
>	
QUAD	14
SPECIES	COVER
amaret	6
artvul	3
astsim	20
elyvir	2
monfis	8
solcan	70
taroff	2
verurt	5
>	
QUAD	15
SPECIES	COVER
astlat	2
elyvir	3
monfis	35
solcan	35
>	
QUAD	16
SPECIES	COVER
amaret	1
andger	8
astlae	4
astlat	2
astsim	10
monfis	10
poapra	40
solcan	35
taroff	1
>	
QUAD	17
SPECIES	COVER
andger	15
astnov	15
broine	3
corrac	4
elyvir	4
poapra	35
pycvir	3
ratpin	3
rudtri	15
solcan	5
solrig	15
sornut	2
>	

QUAD	18
SPECIES	COVER
astpil	4
boucur	10
echpur	2
erivil	4
poapra	6
schsco	35
setgla	25
>	
QUAD	19
SPECIES	COVER
poapra	20
rudhir	3
schsco	65
setgla	1
solcan	2
sornut	8
>	
QUAD	20
SPECIES	COVER
ambtri	2
andger	25
capbur	1
elycan	6
monfis	5
ratpin	3
schsco	5
setgla	2
sornut	30
>	
QUAD	21
SPECIES	COVER
ambart	1
andger	15
broine	25
elyvir	5
erivil	15
setgla	4
sornut	20
>	
QUAD	22
SPECIES	COVER
andger	10
astpil	5
astsim	3
cxfran	25
elyvir	3
erivil	2
eupser	25
juntor	5
lycame	8
solcan	10
solgra	1
sornut	4
>	
QUAD	23
SPECIES	COVER
ambart	3
broine	5
ratpin	1
schsco	18
sornut	35
>	
QUAD	24
SPECIES	COVER
echpur	1
elycan	2
elyvir	2
schsco	5
setgla	5
sornut	20
>	
QUAD	25
SPECIES	COVER
ambart	2
andger	15
elycan	2
elyvir	2
poapra	4
solcan	2
sornut	25
>	
QUAD	26
SPECIES	COVER
ambart	4
monfis	30
ratpin	4
solcan	35

sornut	2
>	
QUAD	27
SPECIES	COVER
ambart	4
astsim	1
erivil	3
medlup	1
monfis	10
poapra	3
ratpin	50
solcan	4
sornut	12
>	
QUAD	28
SPECIES	COVER
agralb	6
andger	12
elycan	8
monfis	2
oxastr	2
plalan	3
poapra	6
ratpin	4
rudsub	4
setgla	1
solcan	8
solgra	35
sornut	8
>	
QUAD	29
SPECIES	COVER
ambart	2
ambtri	2
medlup	3
monfis	3
ratpin	2
schsco	15
setgla	30
solcan	3
sornut	45
>	
QUAD	30
SPECIES	COVER
agralb	3
andger	30
erivil	2
monfis	2
pancap	2
poapra	1
ratpin	1
schsco	6
setfab	10
setgla	5
sornut	25
trihyb	6
>	
QUAD	31
SPECIES	COVER
agralb	50
astpil	1
daucar	2
eupser	4
melalb	2
poapra	10
setfab	4
setgla	8
sornut	25
trihyb	8
>	
QUAD	32
SPECIES	COVER
ambart	8
astpil	4
echpur	4
elycan	5
elyvir	15
eupser	15
monfis	3
poapra	25
ratpin	2
setfab	5
setgla	15
sornut	6
trihyb	6
>	
QUAD	33
SPECIES	COVER
elyvir	4

poapra	6
solcan	10
>	
QUAD	34
SPECIES	COVER
agralb	5
elycan	2
melalb	2
poapra	4
sornut	85
>	
QUAD	35
SPECIES	COVER
cxblan	2
elyvir	2
melalb	3
monfis	10
poapra	15
ratpin	8
solcan	25
solgra	5
sornut	12
>	
QUAD	36
SPECIES	COVER
ambart	4
astpil	2
elycan	4
medlup	2
monfis	6
phaaru	3
poapra	10
solcan	50
sornut	20
>	
QUAD	37
SPECIES	COVER
astpil	2
cxblan	3
elyvir	2
erivil	1
phrausm	8
poapra	6
ratpin	8
rudhir	2
solcan	25
>	
QUAD	38
SPECIES	COVER
amaret	35
cortri	3
cxscop	4
elyvir	3
eupalt	2
melalb	4
poapra	20
rudhir	2
solcan	25
sornut	10
>	
QUAD	39
SPECIES	COVER
agralb	40
andger	15
poapra	8
ratpin	5
rosset	3
setgla	15
solcan	8
sornut	15
ulmpum	2
>	
QUAD	40
SPECIES	COVER
cirarv	1
ratpin	2
setgla	30
sornut	7
trihyb	5
>	
QUAD	41
SPECIES	COVER
agralb	15
agrrep	2
astpil	13
melalb	3
monfis	20
phaaru	3
ratpin	7

solcan	35
>	
QUAD	42
SPECIES	COVER
agralb	5
cxblan	4
daucar	3
elyvir	15
melalb	10
monfis	4
poapra	10
solcan	4
solrig	35
trihyb	8
>	
QUAD	43
SPECIES	COVER
agralb	10
astpil	10
daucar	3
echcru	1
elyvir	15
melalb	5
monfis	20
ratpin	1
setfab	7
solcan	25
sornut	4
trihyb	2
>	
QUAD	44
SPECIES	COVER
ambart	13
astsim	3
daucar	6
elycan	10
melalb	6
monfis	13
poapra	15
ratpin	15
solcan	15
>	
QUAD	45
SPECIES	COVER
ambart	4
ascver	1
daucar	2
echpur	1
melalb	7
monfis	5
poapra	3
rudhir	2
setgla	5
solcan	60
solrig	2
sornut	15
>	
QUAD	46
SPECIES	COVER
elycan	2
eupalt	4
fesela	15
helhel	3
poapra	50
rudhir	3
setgla	15
solcan	15
>	
QUAD	47
SPECIES	COVER
ambart	2
elycan	4
monfis	35
pycvir	20
solcan	15
sornut	25
>	
QUAD	48
SPECIES	COVER
ambtri	4
astpil	6
brotec	2
elycan	8
elyvir	2
erivil	2
heltub	15
monfis	8
ratpin	10
solcan	15

>	
QUAD	49
SPECIES	COVER
elycan	15
poapra	3
setgla	60
sornut	35
trihyb	2
>	
QUAD	50
SPECIES	COVER
andger	4
elycan	6
heltub	70
setgla	2
solcan	2
sornut	15
>	
QUAD	51
SPECIES	COVER
ambart	2
andger	15
astpil	1
elycan	10
heltub	5
medlup	1
poapra	3
pycvir	5
ratpin	3
schsco	10
solcan	30
sornut	25
>	
QUAD	52
SPECIES	COVER
ambart	1
malsie	4
pycten	8
schsco	12
setgla	1
solcan	4
sornut	40
>	
QUAD	53
SPECIES	COVER
amaret	2
ambart	12
andger	25
monfis	15
schsco	10
solcan	50
sornut	10
trirep	1
>	
QUAD	54
SPECIES	COVER
ambart	3
ascsyr	10
monfis	8
poapra	7
ratpin	3
solcan	8
sornut	35
>	
QUAD	55
SPECIES	COVER
monfis	5
ratpin	5
solrig	4
sornut	80
>	
QUAD	56
SPECIES	COVER
astpil	4
bolast	5
elyvir	60
eupser	5
phaaru	2
setfab	1
sornut	5
trirep	3
>	
QUAD	57
SPECIES	COVER
ambart	1
astpil	3
cortri	6
monfis	5
ratpin	5

setgla	5
solcan	50
sornut	30
>	
QUAD	58
SPECIES	COVER
agralb	40
ambtri	10
cortri	7
erivil	5
eupalt	3
monfis	4
ratpin	5
rudhir	5
solcan	15
>	
QUAD	59
SPECIES	COVER
cxblan	4
eriann	1
eupser	1
oxastr	4
poapra	10
ratpin	1
setfab	5
setgla	15
sornut	15
spapec	5
>	
QUAD	60
SPECIES	COVER
astnov	10
cxblan	2
melalb	3
monfis	6
poapra	10
schsco	10
setfab	10
solcan	35
sornut	8
>	
QUAD	61
SPECIES	COVER
agralb	15
ambart	8
astpil	5
eupser	5
panvir	3
poapra	13
ratpin	2
setgla	8
sillac	7
sornut	20
>	
QUAD	62
SPECIES	COVER
ambart	1
poapra	2
setgla	30
sornut	15
>	
QUAD	63
SPECIES	COVER
ambart	1
andger	20
panvir	10
sornut	65
trirep	1
>	
QUAD	64
SPECIES	COVER
astpil	3
setgla	8
sornut	12
>	
QUAD	65
SPECIES	COVER
agralb	2
astpil	2
eupser	2
poapra	3
ratpin	4
setgla	10
sillac	30
sornut	50
>	
QUAD	66
SPECIES	COVER
astsim	4

brakab	2
daucar	3
monfis	25
oenbie	1
poapra	20
ratpin	6
solcan	8
>	
QUAD	67
SPECIES	COVER
cortri	25
poapra	4
ratpin	6
rudhir	1
setfab	4
sornut	5
verurt	2
>	
QUAD	68
SPECIES	COVER
astpil	4
monfis	8
polpen	1
ratpin	4
setfab	5
solcan	6
>	
QUAD	69
SPECIES	COVER
ambart	5
glehed	8
lacser	5
melalb	3
monfis	4
panvir	35
ratpin	2
setfab	6
solcan	8
>	
QUAD	70
SPECIES	COVER
echpur	3
ratpin	3
setfab	12
>	
QUAD	71
SPECIES	COVER
astlat	1
cirarv	10
daucar	2
glehed	3
myoaqu	4
pancap	15
phaaru	3
poapra	5
rudhir	1
setfab	4
solcan	50
>	
QUAD	72
SPECIES	COVER
ambart	4
cirarv	2
daucar	3
medlup	1
monfis	15
setfab	20
solcan	2
verurt	3
>	
QUAD	73
SPECIES	COVER
cirarv	1
daucar	2
erivil	1
eupser	2
melalb	2
setgla	6
>	
QUAD	74
SPECIES	COVER
abuthe	1
agralb	3
ambart	1
andger	40
panvir	1
plalan	3
plarug	1
schsco	4

setgla	5
sornut	40
spovag	3
>	
QUAD	75
SPECIES	COVER
astpil	4
eupalt	12
ratpin	6
rudhir	2
setfab	8
solcan	8
>	
QUAD	76
SPECIES	COVER
ambart	2
astlat	8
astpil	6
elyvir	40
monfis	20
phaaru	2
ratpin	6
rubocc	6
setgla	2
solcan	10
>	
QUAD	77
SPECIES	COVER
acarho	1
ambart	1
elyvir	5
schsco	10
setgla	10
sornut	40
>	
QUAD	78
SPECIES	COVER
ambart	1
andger	2
astpil	3
poapra	30
setgla	7
solcan	7
sornut	35
>	
QUAD	79
SPECIES	COVER
ambart	1
poapra	20
solcan	50
sornut	30
>	
QUAD	80
SPECIES	COVER
ambart	10
astpil	4
erivil	2
monfis	15
ratpin	5
schsco	5
solcan	20
sornut	20
>	
QUAD	81
SPECIES	COVER
ambart	3
astpil	1
elycan	3
schsco	12
setgla	5
solrig	8
sornut	85
>	
QUAD	82
SPECIES	COVER
ambart	4
andger	20
monfis	5
schsco	10
setgla	7
sornut	60
>	
QUAD	83
SPECIES	COVER
andger	60
astpil	3
astsim	3
cxblan	5
cxvulp	3

daucar	1
hacvir	1
jundud	30
panvir	1
plarug	2
pruvull	5
pycvir	5
solcan	5
solgig	3
sornut	1
spapec	1
trirep	2
veralt	1
>	
QUAD	84
SPECIES	COVER
andger	40
cxcris	2
elyvir	5
jundud	10
phyvir	10
poacom	5
pruvull	3
pycten	5
solgig	2
trirep	30
>	
QUAD	85
SPECIES	COVER
andger	7
phaaru	10
pycten	10
solgig	20
trirep	3
>	
QUAD	86
SPECIES	COVER
andger	7
astlat	7
astpil	3
elycan	2
juntor	7
pycvir	20
sciatv	5
setfab	2
solgig	12
solgra	5
>	
QUAD	87
SPECIES	COVER
agralb	5
ambart	5
astpil	5
cxvulp	10
elyvir	5
jundud	5
leeory	10
solgig	50
trirep	4
>	
QUAD	88
SPECIES	COVER
agralb	15
ambart	1
astsim	10
cxvulp	60
elyvir	7
jundud	10
leeory	2
solgig	5
trirep	1
>	
QUAD	89
SPECIES	COVER
ambtri	5
astlat	5
camame	4
carcor	7
cirlut	4
cxblan	15
elycan	10
euprug	8
geucan	5
oxastr	1
phaaru	7
phrlep	3
solcan	4
viosor	5
vitrip	15

>	
QUAD	90
SPECIES	COVER
ambtri	12
astlat	4
cxblan	20
elyvir	30
taroff	4
viosor	5
vitrip	4
>	
QUAD	91
SPECIES	COVER
elyvir	100
euprug	8
leeory	3
monfis	5
phaaru	4
solcan	5
verurt	3
>	
QUAD	92
SPECIES	COVER
ambtri	2
cxblan	10
elyvir	85
eupmac	1
leeory	3
monfis	12
parqui	3
solcan	3
veralt	7
>	
QUAD	93
SPECIES	COVER
astpil	2
astsagd	3
leeory	3
monfis	5
rudtri	3
solcan	95
vitrip	2
>	
QUAD	94
SPECIES	COVER
apocan	100
cxblan	5
elyvir	15
euppur	5
ratpin	5
rudtri	15
solcan	5
sornut	15
>	
QUAD	95
SPECIES	COVER
ambart	5
astpil	5
cxblan	2
daucar	1
eriann	1
melalb	2
plarug	2
poapra	30
pruvull	2
setfab	2
setgla	5
solcan	5
sornut	5
trirep	3
>	
QUAD	96
SPECIES	COVER
ambtri	10
astlat	5
celocc	4
cxblan	5
geucan	1
muhmex	50
rudlac	4
solcan	25
vibden	3
vibopu	5
>	
QUAD	97
SPECIES	COVER
ambtri	1
crycan	5
elyvir	95

hyppun	1
pilpum	1
>	
QUAD	98
SPECIES	COVER
ambtri	1
ascsyr	10
astlat	3
cirarv	10
cxblan	10
elyvir	10
geucan	5
parqui	5
phaaru	2
poapra	10
rhurad	10
solcan	30
>	
QUAD	99
SPECIES	COVER
ambtri	12
cirarv	2
elycan	10
elyvir	80
geucan	10
rhurad	5
smilas	2
>	
QUAD	100
SPECIES	COVER
astlat	5
astsagd	5
cxblan	2
galapa	1
moralb	7
poapra	30
pruvull	7
ratpin	1
solcan	80
>	
QUAD	101
SPECIES	COVER
agralb	80
ascsyr	3
elycan	2
galapa	2
parqui	5
rhurad	1
sancaa	5
solcan	25
vibden	25
>	
QUAD	102
SPECIES	COVER
agrgry	1
ambtri	5
astsagd	5
cxblan	7
dasmac	5
elycan	10
euprug	7
parqui	20
veralt	15
verurt	2
>	
QUAD	103
SPECIES	COVER
asacan	5
astsagd	3
carcor	2
celocc	5
cinaru	7
cxblan	2
galapa	2
geucan	1
hacvir	5
jugnig	2
lacbie	2
parqui	10
ruball	2
veralt	15
>	
QUAD	104
SPECIES	COVER
ambtri	30
astlat	5
cirarv	7
elycan	3
geucan	1

lacbie	2
parqui	5
polvir	5
rhacat	10
ribmis	2
solcan	5
urtdio	1
>	
QUAD	105
SPECIES	COVER
ambtri	2
astsim	1
celocc	1
cxblan	15
galapa	2
geucan	5
parqui	8
rhurad	5
samcan	3
taroff	2
>	
QUAD	106
SPECIES	COVER
ambtri	5
astlat	5
cinaru	10
cxblan	7
elyvir	3
geucan	5
lacflo	2
muhsch	15
ribmis	2
rudlac	5
samcan	10
solcan	3
ulmame	5
veralt	15
>	
QUAD	107
SPECIES	COVER
astlat	5
crycan	40
elyvir	10
rhurad	10
samcan	30
solcan	3
>	
QUAD	108
SPECIES	COVER
elyvir	100
teucan	3
viosor	12
>	
QUAD	109
SPECIES	COVER
elycan	5
elyvir	95
euprug	3
phaaru	2
solcan	12
>	
QUAD	110
SPECIES	COVER
astlat	2
elyvir	80
euprug	5
frapen	4
polpen	4
solcan	20
vibden	10
vibopu	2
vitrip	9
>	
QUAD	111
SPECIES	COVER
astlat	10
cirarv	3
elyvir	50
euprug	40
impcap	3
lysnum	2
polper	1
rosmul	12
vibden	2
viosor	3
>	
QUAD	112
SPECIES	COVER
astlat	3

astsagd	4
cirarv	2
elyvir	10
epicol	2
parqui	5
rhacat	3
solcan	12
solgra	2
verurt	7
vibden	5
vitrip	4

>

QUAD	113
SPECIES	COVER
boucur	3
elyvir	20
frapen	8
lontat	10
rhacat	7
rhurad	5
solcan	25
vibopu	3
vitrip	12

>

QUAD	114
SPECIES	COVER
astpil	5
elycan	30
elyvil	8
frapen	4
lontat	5
rhurad	8
solcan	12
vibden	2
vitrip	7

>

QUAD	115
SPECIES	COVER
achmil	3
astlat	3
camame	5
elycan	50
euprug	7
lonmaa	25
muhsch	8
sornut	5

SITE: WCERT
LOCALE: Reach 5E
BY: MO, WO, MP, WS
NOTES: 9/19/2018

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T1-1	1.67	1	2.89	2.24	0.33	0.6	3	5
T1-10	0.8	0.5	1.79	1.41	0.4	0.5	5	8
T1-11	0	0	0	0	1	0.75	2	4
T1-12	0	0	0	0	1	1	3	8
T1-13	2.5	1.07	6.12	4.01	0.83	0.93	6	14
T1-14	0	0	0	0	1	0.89	1	9
T1-15	0	0	0	0	0.71	0.67	7	15
T1-16	1.57	0.92	4.16	3.18	1	0.92	7	12
T1-17	2.6	1.18	5.81	3.92	0	0.64	5	11
T1-18	0.25	0.11	0.5	0.33	1	0.78	4	9
T1-19	0.75	0.25	1.5	0.87	0.75	1.08	4	12
T1-2	0.14	0.08	0.38	0.29	0.57	0.58	7	12
T1-20	0	0	0	0	1	0.82	3	11
T1-21	0	0	0	0	1	1.08	4	12
T1-22	2.29	2	6.05	5.66	0.43	0.38	7	8
T1-3	0.33	0.2	0.82	0.63	0.67	0.9	6	10
T1-4	0.5	0.25	0.71	0.5	0.5	0.75	2	4
T1-5	0.1	0.05	0.32	0.23	0.6	0.68	10	19
T1-6	2.38	1.9	6.72	6.01	0.75	0.8	8	10
T1-7	0	0	0	0	0.5	0.6	2	5
T1-8	1	0.67	2.45	2	0.67	0.89	6	9
T1-9	0	0	0	0	0.67	0.73	6	11
T2-1	2	1.12	7.48	5.6	0.71	0.8	14	25
T2-10	0	0	0	0	0	0.57	3	7
T2-11	2	1.27	5.29	4.22	0.14	0.36	7	11
T2-12	2.17	1.63	5.31	4.6	0.67	0.63	6	8
T2-13	1.63	1	4.6	3.61	-0.13	0.08	8	13
T2-14	0.17	0.11	0.41	0.33	0.17	0.33	6	9
T2-15	2.78	2.27	8.33	7.54	0.67	0.64	9	11
T2-16	0	0	0	0	0.4	0.75	5	12
T2-17	1	0.33	1.73	1	0	0.67	3	9
T2-18	1.83	1.1	4.49	3.48	0.33	0.6	6	10
T2-19	1.2	0.75	2.68	2.12	0.8	0.88	5	8
T2-2	0.71	0.36	1.89	1.34	0.43	0.5	7	14
T2-20	1.17	0.64	2.86	2.11	0.67	0.73	6	11
T2-21	1.83	1.1	4.49	3.48	0.17	0.7	6	10
T2-3	0.83	0.56	2.04	1.67	1	0.89	6	9
T2-4	0.6	0.43	1.34	1.13	0.4	0.43	5	7
T2-5	1.33	0.8	2.31	1.79	0.33	0.2	3	5
T2-6		0	0	0		0		1
T2-7	2.67	1	4.62	2.83	0.67	0.75	3	8
T2-8	2.57	1.64	6.8	5.43	0.71	0.64	7	11
T2-9	1.29	0.75	3.4	2.6	0.71	0.67	7	12
T3-1		0	0	0		1		3
T3-2	0.88	0.47	2.47	1.81	0.5	0.67	8	15
T3-3	3	1.15	6.71	4.16	0.8	0.85	5	13
T3-4	1.25	0.56	2.5	1.67	0	0.67	4	9
T3-5	0.88	0.64	2.47	2.11	0.38	0.45	8	11
T4-1	2	1.27	5.29	4.22	0.57	0.64	7	11
T4-2	1.11	0.67	3.33	2.58	0.33	0.53	9	15
T4-3	3.71	2.36	9.83	7.84	1	1	7	11
T4-4	1.8	1	4.02	3	0.6	0.56	5	9
T5-1	3	2	8.49	6.93	0.38	0.58	8	12
T5-2	3.13	2.27	8.84	7.54	0.5	0.45	8	11
T5-3	2.67	2	8	6.93	0.56	0.5	9	12
T5-4	2.17	1.3	5.31	4.11	1	0.8	6	10
T6-1	2.67	1.33	4.62	3.27	1	1	3	6
T6-2	2	1.33	6.32	5.16	0.2	0.53	10	15
T6-3	2.6	2.17	8.22	7.51	0.8	0.83	10	12
T6-4	2.3	1.77	7.27	6.38	0.5	0.46	10	13
T6-5	3.43	2.67	9.07	8	-0.71	-0.33	7	9
T6-6	4.18	3.54	13.87	12.76	-0.64	-0.54	11	13
T6-7	4.31	4	15.53	14.97	-1.15	-1.14	13	14
AVG	1.46	0.94	3.85	3.13	0.49	0.61	6	10.37
STD	1.18	0.9	3.52	3.14	0.43	0.37	2.85	3.75

TRANSECT SUMMARY

C	NUMBER					
0	19				73	NATIVE SPECIES
1	11				107	TOTAL SPECIES
2	4				2.84	NATIVE MEAN C
3	7	0:	26.03%		1.93	W/Adventives
4	11	1 to 3:	30.14%		24.23	NATIVE FQI
5	14	4 to 6:	35.62%		20.01	W/Adventives
6	1	7 to 10:	8.22%		-0.04	NATIVE MEAN W
7	1				0.21	W/Adventives

8	5
9	0
10	0

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	73	68.22%	ADVENTIVE	34	31.78%
Tree	4	3.74%	Tree	1	0.93%
Shrub	2	1.87%	Shrub	2	1.87%
Vine	3	2.80%	Vine	1	0.93%
Forb	48	44.86%	Forb	22	20.56%
Grass	10	9.35%	Grass	8	7.48%
Sedge	6	5.61%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Tree	4	12	0.6	0.2	0.4
N Shrub	3	26	0.5	0.5	0.5
N Vine	8	23	1.2	0.4	0.8
N Forb	259	1446	39.7	28	33.9
N Grass	84	883	12.9	17.1	15
N Sedge	20	221	3.1	4.3	3.7
A Tree	1	10	0.2	0.2	0.2
A Shrub	4	12	0.6	0.2	0.4
A Vine	2	11	0.3	0.2	0.3
A Forb	177	716	27.1	13.9	20.5
A Grass	91	1796	13.9	34.8	24.4

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Setaria pumila	0	FAC	49	1496	7.5	29	18.3
Panicum capillare	0	FAC	25	369	3.8	7.2	5.5
Ambrosia artemisiifolia	0	FACU	33	262	5.1	5.1	5.1
Andropogon gerardii	5	FAC	17	183	2.6	3.5	3.1
Eriochloa villosa	0	UPL	24	169	3.7	3.3	3.5
Rudbeckia hirta	1	FACU	19	132	2.9	2.6	2.7
Rudbeckia subtomentosa	8	FACU	4	125	0.6	2.4	1.5
Cyperus esculentus	0	FACW	10	117	1.5	2.3	1.9
Rumex crispus	0	FAC	13	97	2	1.9	1.9
Sorghastrum nutans	5	FACU	11	97	1.7	1.9	1.8
Solidago canadensis	1	FACU	6	82	0.9	1.6	1.3
Oxalis stricta	0	FACU	26	80	4	1.6	2.8
Erigeron annuus	0	FACU	21	78	3.2	1.5	2.4
Setaria faberi	0	FACU	9	78	1.4	1.5	1.4
Plantago major	0	FAC	14	77	2.1	1.5	1.8
Panicum dichotomiflorum	0	FACW	12	65	1.8	1.3	1.5
Echinochloa crus-galli	0	FACW	4	64	0.6	1.2	0.9
Taraxacum officinale	0	FACU	16	58	2.5	1.1	1.8
Trifolium pratense	0	FACU	16	56	2.5	1.1	1.8
Anemone canadensis	4	FACW	5	55	0.8	1.1	0.9
Calystegia sepium	1	FAC	2	55	0.3	1.1	0.7
Chamaesyce nutans	0	FACU	7	53	1.1	1	1
Symphyotrichum pilosum	0	FACU	10	52	1.5	1	1.3
Persicaria pensylvanica	0	FACW	5	52	0.8	1	0.9
Agastache nepetoides	5	FACU	9	51	1.4	1	1.2
Acalypha rhomboidea	0	FACU	21	49	3.2	1	2.1
Nepeta cataria	0	FACU	11	48	1.7	0.9	1.3
Trifolium hybridum	0	FACU	7	45	1.1	0.9	1
Muhlenbergia schreberi	0	FAC	6	45	0.9	0.9	0.9
Carex cristatella	4	FACW	3	45	0.5	0.9	0.7
Daucus carota	0	UPL	18	43	2.8	0.8	1.8
Potentilla norvegica	0	FAC	11	41	1.7	0.8	1.2
Barbarea vulgaris	0	FAC	6	40	0.9	0.8	0.8
Solanum carolinense	0	FACU	9	37	1.4	0.7	1
Asclepias tuberosa	8	UPL	12	35	1.8	0.7	1.3
Verbascum blattaria	0	FACU	7	31	1.1	0.6	0.8
Persicaria maculosa	0	FACW	6	30	0.9	0.6	0.8
Poa pratensis	0	FAC	3	30	0.5	0.6	0.5
Spartina pectinata	4	FACW	1	30	0.2	0.6	0.4
Plantago lanceolata	0	FACU	6	28	0.9	0.5	0.7
Rudbeckia triloba	1	FACU	8	27	1.2	0.5	0.9
Carex lacustris	5	OBL	2	27	0.3	0.5	0.4
Hibiscus trionum	0	UPL	6	26	0.9	0.5	0.7
Melilotus albus	0	UPL	10	24	1.5	0.5	1
Prunus serotina	0	FACU	2	24	0.3	0.5	0.4
Trifolium repens	0	FACU	10	23	1.5	0.4	1
Schizachyrium scoparium	5	FACU	5	21	0.8	0.4	0.6
Chenopodium album	0	FACU	7	20	1.1	0.4	0.7

Plantago rugelii	0	FAC	4	20	0.6	0.4	0.5
Carex vulpinoidea	2	FACW	1	20	0.2	0.4	0.3
Verbesina alternifolia	5	FACW	2	18	0.3	0.3	0.3
Lysimachia thyrsiflora	8	OBL	2	18	0.3	0.3	0.3
Glechoma hederacea	0	FACU	4	13	0.6	0.3	0.4
Verbena urticifolia	2	FAC	5	12	0.8	0.2	0.5
Parthenocissus quinquefolia	4	FACU	4	12	0.6	0.2	0.4
Heliopsis helianthoides	7	FACU	4	12	0.6	0.2	0.4
Sinapis arvensis	0	UPL	5	11	0.8	0.2	0.5
Solanum dulcamara	0	FAC	2	11	0.3	0.2	0.3
Morus alba	0	FAC	1	10	0.2	0.2	0.2
Rosa multiflora	0	FACU	3	10	0.5	0.2	0.3
Solidago rigida	3	FACU	4	10	0.6	0.2	0.4
Agrostis gigantea	0	FACW	1	10	0.2	0.2	0.2
Carex blanda	1	FAC	3	10	0.5	0.2	0.3
Pycnanthemum virginianum	5	FACW	2	10	0.3	0.2	0.3
Convolvulus arvensis	0	UPL	2	9	0.3	0.2	0.2
Monarda fistulosa	4	FACU	3	8	0.5	0.2	0.3
Phalaris arundinacea	0	FACW	3	8	0.5	0.2	0.3
Rudbeckia laciniata	4	FACW	1	8	0.2	0.2	0.2
Amaranthus retroflexus	0	FACU	5	7	0.8	0.1	0.5
Viola sororia	3	FAC	2	7	0.3	0.1	0.2
Vitis riparia	1	FACW	2	7	0.3	0.1	0.2
Symphyotrichum lanceolatum	3	FAC	2	7	0.3	0.1	0.2
Fragaria virginiana	0	FACU	2	6	0.3	0.1	0.2
Eupatorium serotinum	0	FAC	2	6	0.3	0.1	0.2
Agastache scrophulariaefolia	5	UPL	1	6	0.2	0.1	0.1
Prunella vulgaris ssp. lanceolata	1	FAC	2	6	0.3	0.1	0.2
Calamagrostis canadensis	6	OBL	1	6	0.2	0.1	0.1
Ratibida pinnata	4	UPL	2	5	0.3	0.1	0.2
Asclepias incarnata	3	OBL	1	5	0.2	0.1	0.1
Zizia aurea	5	FAC	1	5	0.2	0.1	0.1
Acer saccharum	5	FACU	1	4	0.2	0.1	0.1
Anemone virginiana	5	FACU	1	4	0.2	0.1	0.1
Lactuca canadensis	1	FACU	1	4	0.2	0.1	0.1
Toxicodendron radicans	2	FAC	2	4	0.3	0.1	0.2
Symphyotrichum lateriflorum	4	FACW	1	4	0.2	0.1	0.1
Elymus virginicus	3	FACW	2	3	0.3	0.1	0.2
Vernonia fasciculata	8	FACW	1	3	0.2	0.1	0.1
Geum canadense	1	FAC	1	3	0.2	0.1	0.1
Bromus inermis	0	FACU	1	3	0.2	0.1	0.1
Amaranthus tuberculatus	1	OBL	1	3	0.2	0.1	0.1
Juglans nigra	3	FACU	1	3	0.2	0.1	0.1
Asclepias syriaca	0	FACU	1	3	0.2	0.1	0.1
Boehmeria cylindrica	5	OBL	1	3	0.2	0.1	0.1
Fraxinus pennsylvanica	4	FACW	1	3	0.2	0.1	0.1
Symphyotrichum puniceum	8	OBL	1	3	0.2	0.1	0.1
Rhamnus cathartica	0	FAC	1	2	0.2	.	0.1
Cirsium arvense	0	FACU	2	2	0.3	.	0.2
Lycopus americanus	4	OBL	1	2	0.2	.	0.1
Cercis canadensis	5	FACU	1	2	0.2	.	0.1
Sisyrinchium angustifolium	5	FAC	1	2	0.2	.	0.1
Digitaria ischaemum	0	FACU	1	2	0.2	.	0.1
Sanicula odorata	3	FAC	1	2	0.2	.	0.1
Carex frankii	4	OBL	1	2	0.2	.	0.1
Salix interior	2	FACW	1	2	0.2	.	0.1
Medicago lupulina	0	FACU	1	1	0.2	.	0.1
Portulaca oleracea	0	FACU	1	1	0.2	.	0.1
Bidens frondosa	1	FACW	1	1	0.2	.	0.1
			653	5156			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
acesau	Acer saccharum	Acer saccharum	Sugar Maple	5	FACU	1
aganep	Agastache nepetoides	Agastache nepetoides	Yellow Giant-Hyssop	5	FACU	1
agascr	Agastache scrophulariaefolia	Agastache scrophulariaefolia	Purple Giant Hyssop	5	UPL	2
agralb	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	-1
amaret	Amaranthus retroflexus	AMARANTHUS RETROFLEXUS	Red-Root	0	FACU	1
amatub	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	-2
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
anecan	Anemone canadensis	Anemone canadensis	Round-Leaf Thimbleweed	4	FACW	-1
anevir	Anemone virginiana	Anemone virginiana	Tall Thimbleweed	5	FACU	1
ascinc	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	-2
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	1
asctub	Asclepias tuberosa	Asclepias tuberosa	Butterfly-Weed	8	UPL	2
barvul	Barbarea vulgaris	BARBAREA VULGARIS	Garden Yellow-Rocket	0	FAC	0
bidfro	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	-1
boecyl	Boehmeria cylindrica	Boehmeria cylindrica drummondiana	Small-Spike False Nettle	5	OBL	-2
broine	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	1
calcan	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	-2
consep	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	0
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	0

cxcris	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	-1
cxfran	Carex frankii	Carex frankii	Frank's Sedge	4	OBL	-2
cxlacu	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	-2
cxvulp	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	-1
cercan	Cercis canadensis	Cercis canadensis	Redbud	5	FACU	1
chanut	Chamaesyce nutans	Chamaesyce nutans	Eyebane	0	FACU	1
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	1
cirarv	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	1
conarv	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	2
cypesc	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	-1
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	2
digisc	Digitaria ischaemum	DIGITARIA ISCHAEMUM	Smooth Crab Grass	0	FACU	1
echcru	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	-1
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
eriann	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	1
erivil	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	2
eupser	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	0
fravir	Fragaria virginiana	Fragaria virginiana	Virginia Strawberry	0	FACU	1
frapen	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	-1
geucan	Geum canadense	Geum canadense	White Avens	1	FAC	0
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
helhel	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	1
hibtri	Hibiscus trionum	HIBISCUS TRIONUM	Flower-of-an-Hour	0	UPL	2
jugnig	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	1
laccan	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	1
lycame	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	-2
lysthy	Lysimachia thyrsiflora	Lysimachia thyrsiflora	Tufted Yellow-Loosestrife	8	OBL	-2
medlup	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	1
melalb	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	2
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
moralb	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	0
muhsch	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0
nepcat	Nepeta cataria	NEPETA CATARIA	Catnip	0	FACU	1
oxastr	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
pancap	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	0
pandic	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	-1
parqui	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	1
polper	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	-1
polpen	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
plalan	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	1
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	0
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
poapra	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
porole	Portulaca oleracea	PORTULACA OLERACEA	Little-Hogweed	0	FACU	1
potnor	Potentilla norvegica	Potentilla norvegica	Norwegian Cinquefoil	0	FAC	0
pruvull	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	0
pruser	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	1
pycvir	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	-1
ratpin	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	2
rhacat	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	0
rosmul	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	1
rudhir	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	1
rudlac	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	-1
rudsub	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	1
rudtri	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
rumcri	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	0
salint	Salix interior	Salix interior	Sandbar Willow	2	FACW	-1
sangre	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	0
andsco	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	1
setfab	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	1
setgla	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
brakab	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	2
sisang	Sisyrinchium angustifolium	Sisyrinchium angustifolium	Narrow-Leaf Blue-Eyed-Grass	5	FAC	0
solcar	Solanum carolinense	SOLANUM CAROLINENSE	Carolina Horse-Nettle	0	FACU	1
soldul	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade	0	FAC	0
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
solrig	Solidago rigida	Oligoneuron rigidum	Hard-Leaf Flat-Top-Goldenrod	3	FACU	1
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
spapec	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	-1
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
astpun	Symphyotrichum puniceum	Aster puniceus; Aster puniceus firmus	Purple-Stem American-Aster	8	OBL	-2
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	1
rhurad	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	0
trihyb	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
tripra	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	1
trirep	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	1
verbla	Verbascum blattaria	VERBASCUM BLATTARIA	White Moth Mullein	0	FACU	1
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
veralt	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	-1
verfas	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	-1
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0
vitrip	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	-1
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	0

TRANSECT STRING

>	
QUAD	1
SPECIES	COVER
ambart	4
anecan	40
erivil	1
rudtri	4
setgla	30
>	
QUAD	2
SPECIES	COVER
ambart	3
elyvir	2
nepcat	2
oxastr	1
potnor	1
rudhir	1
setgla	60
solcar	3
>	
QUAD	3
SPECIES	COVER
amaret	1
ambart	5
eriann	1
setgla	80
>	
QUAD	4
SPECIES	COVER
ambart	4
conarv	7
eriann	1
erivil	1
nepcat	3
oxastr	1
rumcri	2
setgla	60
>	
QUAD	5
SPECIES	COVER
ambart	4
andger	7
asctub	15
conarv	2
eriann	4
erivil	8
nepcat	2
oxastr	2
plalan	10
rumcri	8
setfab	12
setgla	30
trirep	1
verurt	2
>	
QUAD	6
SPECIES	COVER
amaret	1
ambart	7
erivil	4
melalb	3
nepcat	2
polper	3
setfab	5
setgla	45
tripra	4
>	
QUAD	7
SPECIES	COVER
acarho	1
ambart	2
brakab	2
cypesc	2
eriann	5
erivil	9
nepcat	8
oxastr	1
pancap	6
polper	13
rumcri	13
setgla	10
solcar	8
taroff	2
trirep	1
>	
QUAD	8

SPECIES	COVER
acarho	4
ambart	2
asctub	1
eriann	2
erivil	15
nepcat	6
oxastr	10
rudtri	2
rumcri	10
setgla	10
solcar	8
verurt	2

>

QUAD	9
SPECIES	COVER
ambart	3
andger	2
daucar	1
erivil	3
hibtri	8
oxastr	2
pandic	2
setfab	2
setgla	18
soldul	8
verfas	3

>

QUAD	10
SPECIES	COVER
acarho	1
ambart	5
eriann	1
erivil	10
moralb	10
rudhir	1
rumcri	5
setgla	50
solcar	1

>

QUAD	11
SPECIES	COVER
daucar	3
eriann	2
erivil	10
hibtri	2
medlup	1
nepcat	3
oxastr	1
plalan	1
setgla	65
solcan	1
solcar	1
verurt	1

>

QUAD	12
SPECIES	COVER
amaret	1
ambarT	3
brakab	1
cypesc	2
eriann	5
pancap	13
potnor	3
rudhir	7
rumcri	2
setgla	25
taroff	1
tripra	4

>

QUAD	13
SPECIES	COVER
acarho	1
ambart	3
eriann	2
erivil	5
nepcat	3
polper	2
setfab	15
setgla	35
solcar	1
taroff	1
trirep	2

>

QUAD	14
SPECIES	COVER
acarho	3
ambart	4
chealb	1

daucar	2
eriann	2
erivil	20
nepcat	3
oxastr	2
setfab	10
setgla	10
taroff	2
trirep	3
>	
QUAD	15
SPECIES	COVER
acesau	4
andger	35
anecan	2
fravir	3
geucan	3
pruser	20
rhacat	2
solcan	13
>	
QUAD	16
SPECIES	COVER
acarho	2
ambart	6
erivil	6
melalb	1
pancap	1
plalan	5
plarug	2
rudhir	2
rudtri	4
setgla	55
>	
QUAD	17
SPECIES	COVER
erivil	4
pancap	1
rudtri	1
setgla	65
>	
QUAD	18
SPECIES	COVER
amaret	1
ambart	4
astpil	3
brakab	2
daucar	2
echcru	8
eriann	4
erivil	5
eupser	2
nepcat	15
oxastr	2
pancap	7
polper	2
potnor	8
rudtri	6
rumcri	3
setgla	30
solcar	2
trirep	1
>	
QUAD	19
SPECIES	COVER
acarho	1
andger	2
asctub	1
brakab	4
erivil	5
pancap	15
pandic	8
rudhir	6
setgla	50
sornut	3
>	
QUAD	20
SPECIES	COVER
cirarv	1
nepcat	1
oxastr	1
plarug	1
setgla	60
>	
QUAD	21
SPECIES	COVER
acarho	1
ambart	2
andger	1

brakab	2
hibtri	1
melalb	1
pandic	5
rudhir	1
setgla	70
>	
QUAD	22
SPECIES	COVER
acarho	2
ambart	3
eriann	3
erivil	2
melalb	1
oxastr	2
pancap	7
polper	3
potnor	2
setgla	70
solcar	10
>	
QUAD	23
SPECIES	COVER
aganep	10
anecan	4
anevir	4
barvul	10
broine	3
daucar	1
eriann	10
erivil	2
fravir	3
hibtri	2
laccan	4
oxastr	3
pancap	3
parqui	3
poapra	8
pruser	4
rhurad	2
rosmul	3
rudtri	3
rumcri	6
setgla	3
solcan	40
sornut	30
taroff	2
tripra	6
>	
QUAD	24
SPECIES	COVER
ambart	10
erivil	5
pancap	10
polpen	30
setgla	30
taroff	4
trirep	2
>	
QUAD	25
SPECIES	COVER
aganep	4
amatub	3
ambart	20
helhel	2
pancap	10
pandic	3
rudhir	5
setgla	30
tripra	2
trirep	2
verbla	2
>	
QUAD	26
SPECIES	COVER
aganep	4
ambart	10
asctub	2
astpil	10
pancap	50
pandic	5
setgla	20
taroff	4
>	
QUAD	27
SPECIES	COVER
amaret	3
ambart	40
andger	6

echcru	3
eriann	2
lycame	2
monfis	3
pandic	3
polper	7
potnor	2
setfab	8
setgla	5
taroff	4

>

QUAD	28
SPECIES	COVER
ambart	40
astpil	5
echcru	50
eupser	4
polpen	10
rudhir	20
setgla	2
trihyb	3
tripra	4

>

QUAD	29
SPECIES	COVER
acarho	3
aganep	3
asctub	3
astpil	8
cypesc	40
helhel	2
monfis	4
polpen	6
rudhir	10
setgla	8
trihyb	3

>

QUAD	30
SPECIES	COVER
acarho	3
ambart	20
barvul	8
cypesc	5
daucar	4
hibtri	5
oxastr	4
potnor	2
rumcri	5
setfab	5
taroff	5
trihyb	20

>

QUAD	31
SPECIES	COVER
barvul	3
cypesc	6
erivil	6
melalb	2
potnor	3
rumcri	30
setfab	6
solrig	3
tripra	2

>

QUAD	32
SPECIES	COVER
aganep	10
andger	5
barvul	3
cypesc	50
daucar	4
eriann	5
pancap	40
rudhir	4
setfab	15
trihyb	5

>

QUAD	33
SPECIES	COVER
acarho	2
aganep	5
ambart	10
chanut	2
consep	50
daucar	2
setgla	4
taroff	3

>

QUAD	34

SPECIES	COVER
acarho	2
agascr	6
agralb	10
chanut	20
cypesc	2
erivil	1
oxastr	2
pancap	6
plamaj	2
polpen	4
rosmul	2
setgla	30
tripra	3
verbla	6
>	
QUAD	35
SPECIES	COVER
aganep	6
consep	5
daucar	2
eriann	10
oxastr	8
pancap	10
plalan	5
rudhir	5
rumcri	2
setgla	15
tripra	4
>	
QUAD	36
SPECIES	COVER
andger	40
daucar	3
eriann	5
erivil	2
melalb	5
poapra	20
pruvull	4
solcan	10
viosor	4
vitrip	5
>	
QUAD	37
SPECIES	COVER
acarho	4
ambart	3
chanut	10
chealb	2
pancap	80
ratpin	3
rudhir	1
setgla	6
verbla	4
>	
QUAD	38
SPECIES	COVER
acarho	2
ambart	8
jugnig	3
pancap	6
pandic	3
setgla	50
solcar	3
>	
QUAD	39
SPECIES	COVER
ambart	3
anecan	1
eriann	1
plamaj	2
setgla	60
>	
QUAD	40
SPECIES	COVER
setgla	100
>	
QUAD	41
SPECIES	COVER
ambart	8
asctub	2
hibtri	8
melalb	2
pandic	4
plamaj	8
rumcri	3
setgla	30
>	
QUAD	42

SPECIES	COVER
aganep	3
ambart	8
andger	2
andsco	1
chealb	4
oxastr	3
pancap	8
plamaj	3
porole	1
setgla	8
solrig	2

>

QUAD	43
SPECIES	COVER
aganep	6
ambart	4
cxblan	2
eriann	4
erivil	3
oxastr	4
pancap	4
plamaj	3
rumcri	8
setgla	60
solrig	2
tripra	2

>

QUAD	44
SPECIES	COVER
erivil	40
setgla	7
taroff	12

>

QUAD	45
SPECIES	COVER
acarho	3
ambart	2
barvul	10
chanut	4
chealb	2
cypesc	4
daucar	3
eriann	6
pancap	2
setgla	8
sornut	25
taroff	2
trihyb	6
verbla	4
verurt	5

>

QUAD	46
SPECIES	COVER
andger	10
barvul	6
cercan	2
chanut	3
chealb	4
daucar	2
melalb	2
oxastr	4
plamaj	5
setgla	8
sornut	4
taroff	5
verbla	6

>

QUAD	47
SPECIES	COVER
chealb	2
daucar	2
melalb	3
pancap	40
pandic	15
plamaj	8
potnor	3
sornut	4
tripra	4

>

QUAD	48
SPECIES	COVER
acarho	3
andger	8
astpil	4
cypesc	5
daucar	2
oxastr	3
pandic	3

plamaj	4
rudhir	3
rudtri	4
setgla	40
>	
QUAD	49
SPECIES	COVER
andger	4
asctub	2
astpil	4
chanut	10
chealb	5
pandic	6
potnor	8
rudhir	25
setgla	15
tripra	3
verbla	5
>	
QUAD	50
SPECIES	COVER
andger	3
astpil	5
echcru	3
erivil	2
glehed	3
muhsch	2
oxastr	3
pancap	3
plamaj	8
rudhir	8
rudtri	3
setgla	2
tripra	3
verbla	4
viosor	3
>	
QUAD	51
SPECIES	COVER
andsco	5
ascsyr	3
asctub	2
daucar	2
helhel	5
pancap	10
rudhir	6
setgla	10
sornut	10
tripra	5
trirep	4
>	
QUAD	52
SPECIES	COVER
ambart	2
andger	50
glehed	6
oxastr	6
plamaj	8
polpen	2
ratpin	2
setgla	4
trihyb	4
>	
QUAD	53
SPECIES	COVER
andsco	10
ascinc	5
helhel	3
melalb	4
pancap	5
plamaj	4
potnor	8
rudhir	20
solrig	3
sornut	10
trihyb	4
tripra	3
>	
QUAD	54
SPECIES	COVER
andger	3
andsco	3
asctub	3
astpil	3
cypesc	1
glehed	2
muhsch	3
plamaj	6
rhurad	2

setgla	2
sornut	3
>	
QUAD	55
SPECIES	COVER
andsco	2
asctub	1
astpil	5
cxblan	2
glehed	2
muhsch	6
oxastr	2
pandic	8
plamaj	6
setgla	8
sisang	2
sornut	2
>	
QUAD	56
SPECIES	COVER
acarho	5
asctub	1
astpil	5
chanut	4
pancap	30
plamaj	10
setgla	3
sornut	4
tripra	5
trirep	4
>	
QUAD	57
SPECIES	COVER
ambart	10
oxastr	1
plalan	6
rudsub	20
tripra	2
trirep	3
>	
QUAD	58
SPECIES	COVER
acarho	1
andger	2
bidfro	1
cirarv	1
daucar	2
digisc	2
muhsch	10
oxastr	1
plalan	1
plarug	2
potnor	1
rudsub	50
sornut	2
taroff	1
vitrip	2
>	
QUAD	59
SPECIES	COVER
acarho	4
andger	3
asctub	2
daucar	2
eriann	3
muhsch	20
oxastr	10
pancap	2
parqui	3
rudhir	6
rudsub	10
soldul	3
>	
QUAD	60
SPECIES	COVER
acarho	1
cxblan	6
daucar	4
elyvir	1
monfis	1
oxastr	1
parqui	2
phaaru	1
plarug	15
poapra	2
rudhir	1
rudsub	45
verurt	2
>	

QUAD	61
SPECIES	COVER
astlat	4
astsim	2
cxcris	15
cxlacu	12
muhsch	4
rosmul	5
sangre	2
taroff	8
veralt	15
>	
QUAD	62
SPECIES	COVER
anecan	8
cxcris	10
cxlacu	15
lysthy	10
parqui	4
phaaru	3
pruvull	2
pycvir	2
solcan	10
spapec	30
taroff	2
veralt	3
zizaur	5
>	
QUAD	63
SPECIES	COVER
astpun	3
astsim	5
boecyl	3
calcan	6
cxcris	20
cxfran	2
cxvulp	20
frapen	3
lysthy	8
phaaru	4
pycvir	8
rudlac	8
salint	2
solcan	8

SITE: WCERT
LOCALE: Reach 5D Mack Road Staging Area
BY: WO, WS
NOTES: 9/19/2018

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
1	3	2.25	5.2	4.5	0	0	3	4
2	3.5	3.5	7	7	0.25	0.25	4	4
3	2.67	2.67	4.62	4.62	0	0	3	3
4	1	1	1	1	1	1	1	1
5	3	3	6	6	-0.25	-0.25	4	4
6	4	4	8	8	1	1	4	4
7	3.75	3.75	7.5	7.5	0.25	0.25	4	4
8	4.75	4.75	9.5	9.5	1	1	4	4
9	3.5	3.5	7	7	0.5	0.5	4	4
10	4	3.2	8	7.16	1	1.2	4	5
11	4.75	3.17	9.5	7.76	0.5	0.33	4	6
12	3	3	6.71	6.71	0.8	0.8	5	5
13	4.75	4.75	9.5	9.5	0	0	4	4
14	3.67	3.67	6.35	6.35	0.67	0.67	3	3
15	3.25	3.25	6.5	6.5	0.75	0.75	4	4
16	4.5	3	6.36	5.2	-0.5	0.33	2	3
17	2.5	1.67	3.54	2.89	1	1.33	2	3
18	3.5	3.5	7	7	0.5	0.5	4	4
19	3.33	2.5	5.77	5	0	0	3	4
20	3.5	2.63	8.57	7.42	0	0.25	6	8
21	4	4	6.93	6.93	0.33	0.33	3	3
22	3.67	3.67	6.35	6.35	0.67	0.67	3	3
23	3.75	3.75	7.5	7.5	0.25	0.25	4	4
24	3.5	3	8.57	7.94	0.83	0.71	6	7
25	5	3.33	7.07	5.77	0.5	0	2	3
26	3.4	2.43	7.6	6.43	0.2	0.29	5	7
27	3.25	3.25	6.5	6.5	0.25	0.25	4	4
28	3	2.25	5.2	4.5	0.67	1	3	4
29	4.17	3.57	10.21	9.45	-0.5	-0.43	6	7
30	3.67	3.67	6.35	6.35	0.67	0.67	3	3
31	3.67	3.67	6.35	6.35	0.67	0.67	3	3
32	3.75	3.75	7.5	7.5	0.75	0.75	4	4
33	3.67	3.67	6.35	6.35	0.67	0.67	3	3
34	3.67	2.75	6.35	5.5	0.67	0.5	3	4
35	4	4	8	8	0.25	0.25	4	4
36	3.67	3.67	6.35	6.35	0.67	0.67	3	3
37	3.75	3.75	7.5	7.5	0.75	0.75	4	4
38	3.75	3.75	7.5	7.5	0.25	0.25	4	4
39	2.5	2.5	5	5	1	1	4	4
40	2.75	2.2	5.5	4.92	0.75	0.6	4	5
41	0.5	0.33	0.71	0.58	1	1	2	3
42	2	1.2	3.46	2.68	0.67	0.6	3	5
43	3.33	2.5	5.77	5	1	1.25	3	4
44	5	3.33	7.07	5.77	0.5	1	2	3
45	5	2	7.07	4.47	0.5	0.4	2	5
46	5	1.67	5	2.89	1	0.67	1	3
AVG	3.55	3.05	6.55	6.1	0.51	0.54	3.48	4.07
STD	0.92	0.92	1.88	1.94	0.4	0.4	1.13	1.29

TRANSECT SUMMARY

C	NUMBER					
0	4				22	NATIVE SPECIES
1	2				34	TOTAL SPECIES
2	3				2.95	NATIVE MEAN C
3	4	0:	18.18%		1.91	W/Adventives
4	3	1 to 3:	40.91%		13.86	NATIVE FQI
5	5	4 to 6:	36.36%		11.15	W/Adventives
6	0	7 to 10:	4.55%		0.14	NATIVE MEAN W
7	0				0.44	W/Adventives
8	1					
9	0					
10	0					

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	22	64.71%	ADVENTIVE	12	35.29%
Tree	2	5.88%	Tree	2	5.88%
Shrub	1	2.94%	Shrub	2	5.88%
Vine	0	0.00%	Vine	0	0.00%
Forb	15	44.12%	Forb	3	8.82%
Grass	3	8.82%	Grass	5	14.71%

Sedge	1	2.94%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Tree	5	28	2.7	0.6	1.6
N Shrub	2	25	1.1	0.5	0.8
N Forb	71	1072	38	22	30
N Grass	81	3303	43.3	67.8	55.6
N Sedge	1	5	0.5	0.1	0.3
A Tree	4	20	2.1	0.4	1.3
A Shrub	2	25	1.1	0.5	0.8
A Forb	4	16	2.1	0.3	1.2
A Grass	17	378	9.1	7.8	8.4

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNES S	FRQ	COV	RFRQ	RCOV	RIV
Andropogon gerardii	5	FAC	41	2220	21.9	45.6	33.7
Sorghastrum nutans	5	FACU	35	1013	18.7	20.8	19.8
Solidago canadensis	1	FACU	31	704	16.6	14.4	15.5
Bromus inermis	0	FACU	3	140	1.6	2.9	2.2
Poa pratensis	0	FAC	8	135	4.3	2.8	3.5
Helianthus grosseserratus	4	FACW	11	130	5.9	2.7	4.3
Silphium integrifolium	5	UPL	4	70	2.1	1.4	1.8
Panicum virgatum	3	FAC	5	70	2.7	1.4	2.1
Schedonorus pratensis	0	FACU	1	70	0.5	1.4	1
Monarda fistulosa	4	FACU	7	49	3.7	1	2.4
Salix interior	2	FACW	2	25	1.1	0.5	0.8
Eupatorium altissimum	0	UPL	4	25	2.1	0.5	1.3
Asclepias syriaca	0	FACU	3	24	1.6	0.5	1
Coreopsis tripteris	5	FAC	2	20	1.1	0.4	0.7
Phalaris arundinacea	0	FACW	3	20	1.6	0.4	1
Rhamnus cathartica	0	FAC	1	20	0.5	0.4	0.5
Ulmus americana	3	FACW	3	18	1.6	0.4	1
Ulmus pumila	0	UPL	3	15	1.6	0.3	1
Setaria pumila	0	FAC	2	13	1.1	0.3	0.7
Ambrosia artemisiifolia	0	FACU	2	10	1.1	0.2	0.6
Juglans nigra	3	FACU	2	10	1.1	0.2	0.6
Juncus dudleyi	2	FACW	1	10	0.5	0.2	0.4
Convolvulus arvensis	0	UPL	1	8	0.5	0.2	0.3
Rosa multiflora	0	FACU	1	5	0.5	0.1	0.3
Daucus carota	0	UPL	2	5	1.1	0.1	0.6
Apocynum cannabinum	2	FAC	1	5	0.5	0.1	0.3
Zizia aurea	5	FAC	1	5	0.5	0.1	0.3
Hackelia virginiana	1	FACU	1	5	0.5	0.1	0.3
Pyrus calleryana	0	UPL	1	5	0.5	0.1	0.3
Scirpus atrovirens	4	OBL	1	5	0.5	0.1	0.3
Symphyotrichum puniceum	8	OBL	1	5	0.5	0.1	0.3
Symphyotrichum novae-angliae	3	FACW	1	5	0.5	0.1	0.3
Symphyotrichum pilosum	0	FACU	1	5	0.5	0.1	0.3
Melilotus albus	0	UPL	1	3	0.5	0.1	0.3
			187	4872			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNES S	WETNES S VALUE
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
apocan	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	0
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	1
broine	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	1
conarv	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	2
cortri	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	0
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	2
eupalt	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
hacvir	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	1
helgro	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	-1
jugnig	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	1
jundud	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	-1
melalb	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	2
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
panvir	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	0
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
poapra	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
pyrcal	Pyrus calleryana	PYRUS CALLERYANA	Ornamental Pear	0	UPL	2
rhacat	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	0
rosmul	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	1
salint	Salix interior	Salix interior	Sandbar Willow	2	FACW	-1

fesela	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	1
sciatv	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	-2
setpum	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
silint	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	2
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
astnov	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	-1
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
astpun	Symphyotrichum puniceum	Aster puniceus; Aster puniceus firmus	Purple-Stem American-Aster	8	OBL	-2
ulmame	Ulmus americana	Ulmus americana	American Elm	3	FACW	-1
ulmpum	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	2
zizaur	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	0

TRANSECT STRING

>	
QUAD	1
SPECIES	COVER
andger	15
poapra	50
solcan	75
ulmame	8
>	
QUAD	2
SPECIES	COVER
andger	5
helgro	10
monfis	5
solcan	80
>	
QUAD	3
SPECIES	COVER
andger	5
salint	5
solcan	95
>	
QUAD	4
SPECIES	COVER
solcan	100
>	
QUAD	5
SPECIES	COVER
andger	20
helgro	20
salint	20
solcan	40
>	
QUAD	6
SPECIES	COVER
andger	60
silint	25
solcan	8
sornut	10
>	
QUAD	7
SPECIES	COVER
andger	30
helgro	10
solcan	5
sornut	40
>	
QUAD	8
SPECIES	COVER
andger	50
monfis	10
silint	20
sornut	20
>	
QUAD	9
SPECIES	COVER
andger	40
panvir	10
solcan	10
sornut	40
>	
QUAD	10
SPECIES	COVER
andger	70
silint	15
solcan	10
sornut	5
ulmpum	5
>	
QUAD	11
SPECIES	COVER

andger 60
cortri 10
monfis 5
phaaru 5
rosmul 5
sornut 20
>
QUAD 12
SPECIES COVER
andger 80
ascsyr 8
monfis 8
solcan 8
sornut 10
>
QUAD 13
SPECIES COVER
andger 80
cortri 10
helgro 20
sornut 10
>
QUAD 14
SPECIES COVER
andger 80
solcan 10
sornut 10
>
QUAD 15
SPECIES COVER
ambart 5
andger 75
jugnig 5
sornut 15
>
QUAD 16
SPECIES COVER
andger 80
helgro 15
ulmpum 5
>
QUAD 17
SPECIES COVER
andger 90
conarv 8
eupalt 5
>
QUAD 18
SPECIES COVER
andger 90
eupalt 4
helgro 10
sornut 8
>
QUAD 19
SPECIES COVER
andger 60
helgro 20
poapra 5
solcan 10
>
QUAD 20
SPECIES COVER
andger 60
daucar 2
helgro 5
panvir 15
poapra 5
solcan 3
sornut 5
ulmame 5
>
QUAD 21
SPECIES COVER
andger 90
apocan 5
sornut 20
>
QUAD 22
SPECIES COVER
andger 75
solcan 15
sornut 10
>
QUAD 23
SPECIES COVER
andger 75
helgro 5
solcan 15

sornut	10
>	
QUAD	24
SPECIES	COVER
ambart	5
andger	70
setpum	3
silint	10
solcan	5
sornut	20
zizaur	5
>	
QUAD	25
SPECIES	COVER
andger	60
phaaru	10
sornut	25
>	
QUAD	26
SPECIES	COVER
andger	50
daucar	3
hacvir	5
panvir	20
phaaru	5
sornut	15
ulmame	5
>	
QUAD	27
SPECIES	COVER
helgro	5
panvir	10
solcan	5
sornut	80
>	
QUAD	28
SPECIES	COVER
panvir	15
pyrcal	5
solcan	10
sornut	70
>	
QUAD	29
SPECIES	COVER
andger	40
astpun	5
jundud	10
poapra	10
sciatv	5
solcan	5
sornut	30
>	
QUAD	30
SPECIES	COVER
andger	15
solcan	10
sornut	75
>	
QUAD	31
SPECIES	COVER
andger	40
solcan	15
sornut	40
>	
QUAD	32
SPECIES	COVER
andger	50
monfis	5
solcan	20
sornut	20
>	
QUAD	33
SPECIES	COVER
andger	25
solcan	10
sornut	60
>	
QUAD	34
SPECIES	COVER
andger	60
poapra	5
solcan	5
sornut	25
>	
QUAD	35
SPECIES	COVER
andger	50
astnov	5
jugnig	5

sornut	50
>	
QUAD	36
SPECIES	COVER
andger	50
solcan	10
sornut	50
>	
QUAD	37
SPECIES	COVER
andger	60
monfis	8
solcan	10
sornut	30
>	
QUAD	38
SPECIES	COVER
andger	50
helgro	10
solcan	10
sornut	40
>	
QUAD	39
SPECIES	COVER
andger	80
eupalt	8
monfis	8
solcan	15
>	
QUAD	40
SPECIES	COVER
andger	50
ascsyr	8
poapra	20
solcan	30
sornut	20
>	
QUAD	41
SPECIES	COVER
ascsyr	8
broine	80
solcan	50
>	
QUAD	42
SPECIES	COVER
andger	50
astpil	5
broine	40
poapra	20
solcan	10
>	
QUAD	43
SPECIES	COVER
andger	50
eupalt	8
melalb	3
sornut	40
>	
QUAD	44
SPECIES	COVER
andger	50
sornut	50
ulmpum	5
>	
QUAD	45
SPECIES	COVER
andger	30
broine	20
poapra	20
rhacat	20
sornut	20
>	
QUAD	46
SPECIES	COVER
fesela	70
setpum	10
sornut	20

SITE: WCERT
LOCALE: Reach 5D Mack Rd Upland Savanna
BY: WS
NOTES: 9/19/2018

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
1	3.13	2.27	8.84	7.54	0.5	0.55	8	11
2	3.36	2.31	11.16	9.25	0.73	0.81	11	16
3	3.13	1.79	8.84	6.68	0.13	0.5	8	14
4	4.2	1.91	9.39	6.33	0.2	0.64	5	11
5	4.4	2.75	9.84	7.78	0.4	0.5	5	8
6	3.5	1.56	7	4.67	0.75	1	4	9
7	2	1.09	4.9	3.62	1.17	1	6	11
8	2	1.38	6	4.99	0.89	0.92	9	13
9	2.33	1.08	5.72	3.88	0.67	0.92	6	13
10	2.67	1.78	6.53	5.33	0.5	0.67	6	9
11	4.5	3	9	7.35	0.75	0.83	4	6
12		0	0	0		1.11		9
13		0	0	0		1		6
AVG	2.71	1.61	6.71	5.19	0.51	0.8	5.54	10.46
STD	1.46	0.92	3.49	2.82	0.36	0.21	3.18	3.02

TRANSECT SUMMARY

C	NUMBER					
0	8				25	NATIVE SPECIES
1	4				46	TOTAL SPECIES
2	1				2.36	NATIVE MEAN C
3	4	0:	32.00%		1.28	W/Adventives
4	4	1 to 3:	36.00%		11.8	NATIVE FQI
5	2	4 to 6:	24.00%		8.7	W/Adventives
6	0	7 to 10:	8.00%		0.4	NATIVE MEAN W
7	1				0.67	W/Adventives
8	1					
9	0					
10	0					

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	25	54.35%	ADVENTIVE	21	45.65%
Tree	0	0.00%	Tree	0	0.00%
Shrub	1	2.17%	Shrub	0	0.00%
Vine	0	0.00%	Vine	0	0.00%
Forb	18	39.13%	Forb	13	28.26%
Grass	5	10.87%	Grass	8	17.39%
Sedge	1	2.17%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Shrub	1	3	0.7	0.3	0.5
N Forb	48	234	35.3	22.7	29
N Grass	21	308	15.4	29.9	22.7
N Sedge	2	5	1.5	0.5	1
A Forb	37	174	27.2	16.9	22.1
A Grass	27	305	19.9	29.6	24.7

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Poa pratensis	0	FAC	5	212	3.7	20.6	12.1
Elymus canadensis	4	FACU	11	211	8.1	20.5	14.3
Rudbeckia subtomentosa	8	FACU	11	107	8.1	10.4	9.2
Taraxacum officinale	0	FACU	8	50	5.9	4.9	5.4
Elymus virginicus	3	FACW	3	37	2.2	3.6	2.9
Trifolium hybridum	0	FACU	6	35	4.4	3.4	3.9
Eriochloa villosa	0	UPL	8	33	5.9	3.2	4.5
Symphyotrichum lateriflorum	4	FACW	3	28	2.2	2.7	2.5
Andropogon gerardii	5	FAC	2	27	1.5	2.6	2
Solidago canadensis	1	FACU	6	23	4.4	2.2	3.3
Sorghastrum nutans	5	FACU	3	20	2.2	1.9	2.1
Plantago lanceolata	0	FACU	3	20	2.2	1.9	2.1
Glechoma hederacea	0	FACU	3	19	2.2	1.8	2
Setaria pumila	0	FAC	7	15	5.1	1.5	3.3
Bromus inermis	0	FACU	1	15	0.7	1.5	1.1

Ambrosia artemisiifolia	0	FACU	4	13	2.9	1.3	2.1
Muhlenbergia schreberi	0	FAC	2	13	1.5	1.3	1.4
Melilotus albus	0	UPL	3	12	2.2	1.2	1.7
Trifolium repens	0	FACU	2	10	1.5	1	1.2
Trifolium pratense	0	FACU	3	9	2.2	0.9	1.5
Dactylis glomerata	0	FACU	2	9	1.5	0.9	1.2
Schedonorus pratensis	0	FACU	2	9	1.5	0.9	1.2
Oxalis stricta	0	FACU	3	8	2.2	0.8	1.5
Ageratina altissima	3	FACU	2	7	1.5	0.7	1.1
Geum canadense	1	FAC	3	7	2.2	0.7	1.4
Eupatorium altissimum	0	UPL	2	7	1.5	0.7	1.1
Plantago major	0	FAC	1	6	0.7	0.6	0.7
Digitaria sanguinalis	0	FACU	1	6	0.7	0.6	0.7
Elymus repens	0	FACU	1	6	0.7	0.6	0.7
Acalypha rhomboidea	0	FACU	3	5	2.2	0.5	1.3
Carex blanda	1	FAC	2	5	1.5	0.5	1
Verbena urticifolia	2	FAC	2	5	1.5	0.5	1
Heliopsis helianthoides	7	FACU	1	4	0.7	0.4	0.6
Rudbeckia hirta	1	FACU	2	4	1.5	0.4	0.9
Medicago lupulina	0	FACU	2	4	1.5	0.4	0.9
Symphyotrichum pilosum	0	FACU	1	3	0.7	0.3	0.5
Monarda fistulosa	4	FACU	1	3	0.7	0.3	0.5
Sonchus oleraceus	0	FACU	2	3	1.5	0.3	0.9
Symphyotrichum novae-angliae	3	FACW	1	3	0.7	0.3	0.5
Plantago rugelii	0	FAC	1	3	0.7	0.3	0.5
Prunus serotina	0	FACU	1	3	0.7	0.3	0.5
Viola sororia	3	FAC	1	2	0.7	0.2	0.5
Achillea millefolium	0	FACU	1	2	0.7	0.2	0.5
Scutellaria lateriflora	4	OBL	1	2	0.7	0.2	0.5
Daucus carota	0	UPL	2	2	1.5	0.2	0.8
Chenopodium album	0	FACU	1	2	0.7	0.2	0.5
			136	1029			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
acarho	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
achmil	Achillea millefolium	ACHILLEA MILLEFOLIUM	Common Yarrow	0	FACU	1
euprug	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
ambart	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
andger	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
broine	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	1
cxblan	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	0
chealb	Chenopodium album	CHENOPODIUM ALBUM; Chenopodium missouriense	Lamb's-Quarters	0	FACU	1
dacglo	Dactylis glomerata	DACTYLIS GLOMERATA	Orchard Grass	0	FACU	1
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	2
digsan	Digitaria sanguinalis	DIGITARIA SANGUINALIS	Hairy Crab Grass	0	FACU	1
elycan	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
agrrep	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	1
elyvir	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
erivil	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	2
eupalt	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
geucan	Geum canadense	Geum canadense	White Avens	1	FAC	0
glehed	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
helhel	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	1
medlup	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	1
melalb	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	2
monfis	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
muhsch	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0
oxastr	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
plalan	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	1
plamaj	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	0
plarug	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
poapra	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
pruser	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	1
rudhir	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	1
rudsub	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	1
fesela	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	1
sculat	Scutellaria lateriflora	Scutellaria lateriflora	Mad Dog Skullcap	4	OBL	-2
setgla	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
solcan	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
sonole	Sonchus oleraceus	SONCHUS OLERACEUS	Common Sow-Thistle	0	FACU	1
sornut	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
astlat	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
astnov	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	-1
astpil	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
taroff	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	1
trihyb	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
tripra	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	1
trirep	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	1
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
viosor	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0

TRANSECT STRING

>	
QUAD	1
SPECIES	COVER
ambart	5
andger	25
astlat	20
astpil	3
elycan	6
glehed	10
plamaj	6
rudsub	2
solcan	3
taroff	3
viosor	2
>	
QUAD	2
SPECIES	COVER
achmil	2
ambart	4
elycan	15
elyvir	10
erivil	2
euprug	6
geucan	1
helhel	4
monfis	3
rudhir	2
rudsub	5
setgla	2
solcan	6
sornut	8
taroff	3
tripra	4
>	
QUAD	3
SPECIES	COVER
acarho	1
astlat	6
digsan	6
elycan	15
elyvir	15
erivil	4
rudhir	2
rudsub	10
sculat	2
setgla	5
solcan	3
sonole	1
taroff	15
tripra	3
>	
QUAD	4
SPECIES	COVER
andger	2
astnov	3
daucar	1
elycan	8
geucan	2
rudsub	2
setgla	1
sonole	2
taroff	15
trihyb	3
trirep	5
>	
QUAD	5
SPECIES	COVER
astlat	2
cxblan	2
elycan	6
glehed	6
poapra	25
rudsub	15
sornut	8
taroff	6
>	
QUAD	6
SPECIES	COVER
cxblan	3
dacglo	6
elycan	15
erivil	12
melalb	5
poapra	35
rudsub	12
solcan	2

taroff	2
>	
QUAD	7
SPECIES	COVER
acarho	1
ambart	2
elycan	8
erivil	2
eupalt	1
oxastr	3
poapra	2
rudsub	20
setgla	2
trihyb	3
trirep	5
>	
QUAD	8
SPECIES	COVER
ambart	2
elycan	30
erivil	3
eupalt	6
euprug	1
plarug	3
pruser	3
rudsub	10
setgla	1
solcan	3
taroff	4
trihyb	8
verurt	2
>	
QUAD	9
SPECIES	COVER
acarho	3
chealb	2
elycan	30
erivil	5
medlup	3
melalb	2
muhsch	3
oxastr	3
rudsub	15
setgla	2
trihyb	12
tripra	2
verurt	3
>	
QUAD	10
SPECIES	COVER
elycan	3
elyvir	12
erivil	3
muhsch	10
oxastr	2
plalan	4
rudsub	8
setgla	2
solcan	6
>	
QUAD	11
SPECIES	COVER
elycan	75
fesela	4
geucan	4
glehed	3
rudsub	8
sornut	4
>	
QUAD	12
SPECIES	COVER
agrrep	6
dacglo	3
daucar	1
fesela	5
medlup	1
melalb	5
plalan	8
poapra	70
trihyb	6
>	
QUAD	13
SPECIES	COVER
broine	15
erivil	2
plalan	8
poapra	80
taroff	2
trihyb	3

2018 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix D

Transect Photos & Locations (9.18.2018-9.19.2018)
Stream Monitoring Photos & Locations

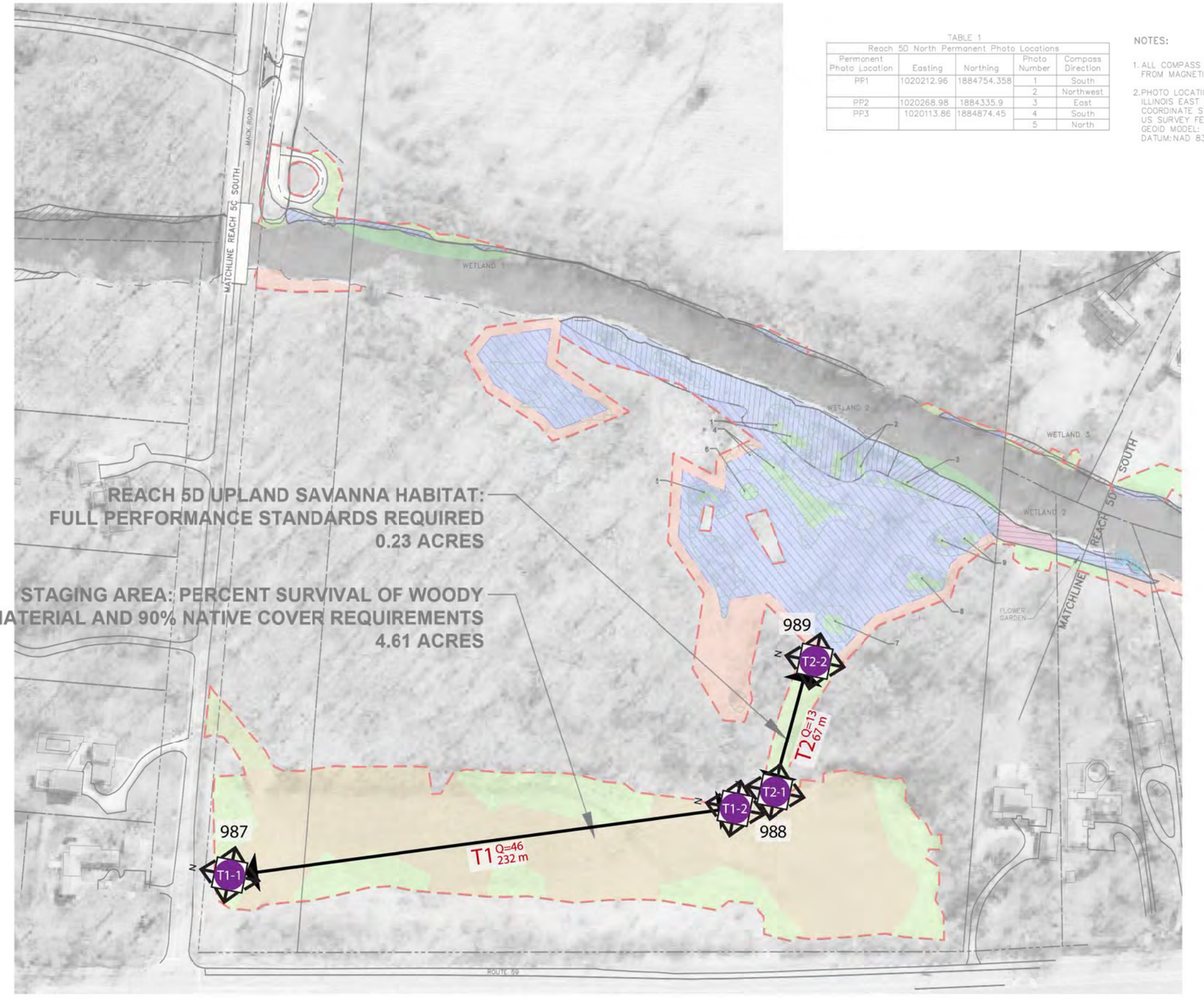


TABLE 1
Reach 5D North Permanent Photo Locations

Permanent Photo Location	Easting	Northing	Photo Number	Compass Direction
PP1	1020212.96	1884754.358	1	South
			2	Northwest
PP2	1020268.98	1884335.9	3	East
PP3	1020113.86	1884874.45	4	South
			5	North

NOTES:

1. ALL COMPASS DIRECTIONS ARE FROM MAGNETIC NORTH.
2. PHOTO LOCATIONS ARE IN THE ILLINOIS EAST STATE PLANE COORDINATE SYSTEM IN UNITS OF US SURVEY FEET. GEOID MODEL: GEOID 96 (CONUS) DATUM: NAD 83

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- APPROXIMATE EDGE OF WATER
- POOL
- RIFFLE
- 8 HOLLOW
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- FORESTED WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED UPLAND SAVANNA AND FERMI LABS SEED
- RESTORED FERMI LABS SEED
- RESTORED WETLAND
- AREA RESTORED WITH PLANT PLUGS
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED BENTGRASS

- SURVEY POINT
- TRANSECT PHOTOGRAPHS
- TRANSECT
- Q QUADRAT
- 1 START
- 2 END

NOTE:

1. BASE MAP PROVIDED BY KERR-McGEE CHEMICAL LLC (NOW KNOWN AS TRONOX) IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINES WERE DEVELOPED BY ARCADIS FROM SURVEY DATA COLLECTED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CAMLSON PSF) FOLLOWING COMPLETION OF RESTORATION.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

MACK ROAD MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-6

Reach 5D Mack Road Staging Area - Transect 1 (Start)- North

Reach 5D Mack Road Staging Area - Transect 1 (Start)- East

Reach 5DMack Road Staging Area - Transect 1 (Start)- South

Reach 5DMack Road Staging Area - Transect 1 (Start)- West

Reach 5D Mack Road Upland Savanna - Transect 2 (Start)- North

Reach 5D Mack Road Upland Savanna - Transect 2 (Start)- East

Reach 5D Mack Road Upland Savanna - Transect 2 (Start)- South

Reach 5D Mack Road Upland Savanna - Transect 2 (Start)- West

Reach 5D Mack Road Upland Savanna - Transect 2 (End)- North, Transect 1 (End)- North

Reach 5D Mack Road Upland Savanna - Transect 2 (End)- East, Transect 1 (End)- East

Reach 5D Mack Road Upland Savanna - Transect 2 (End)- South, Transect 1 (End)- South

Reach 5D Mack Road Upland Savanna - Transect 2 (End)- West, Transect 1 (End)- West

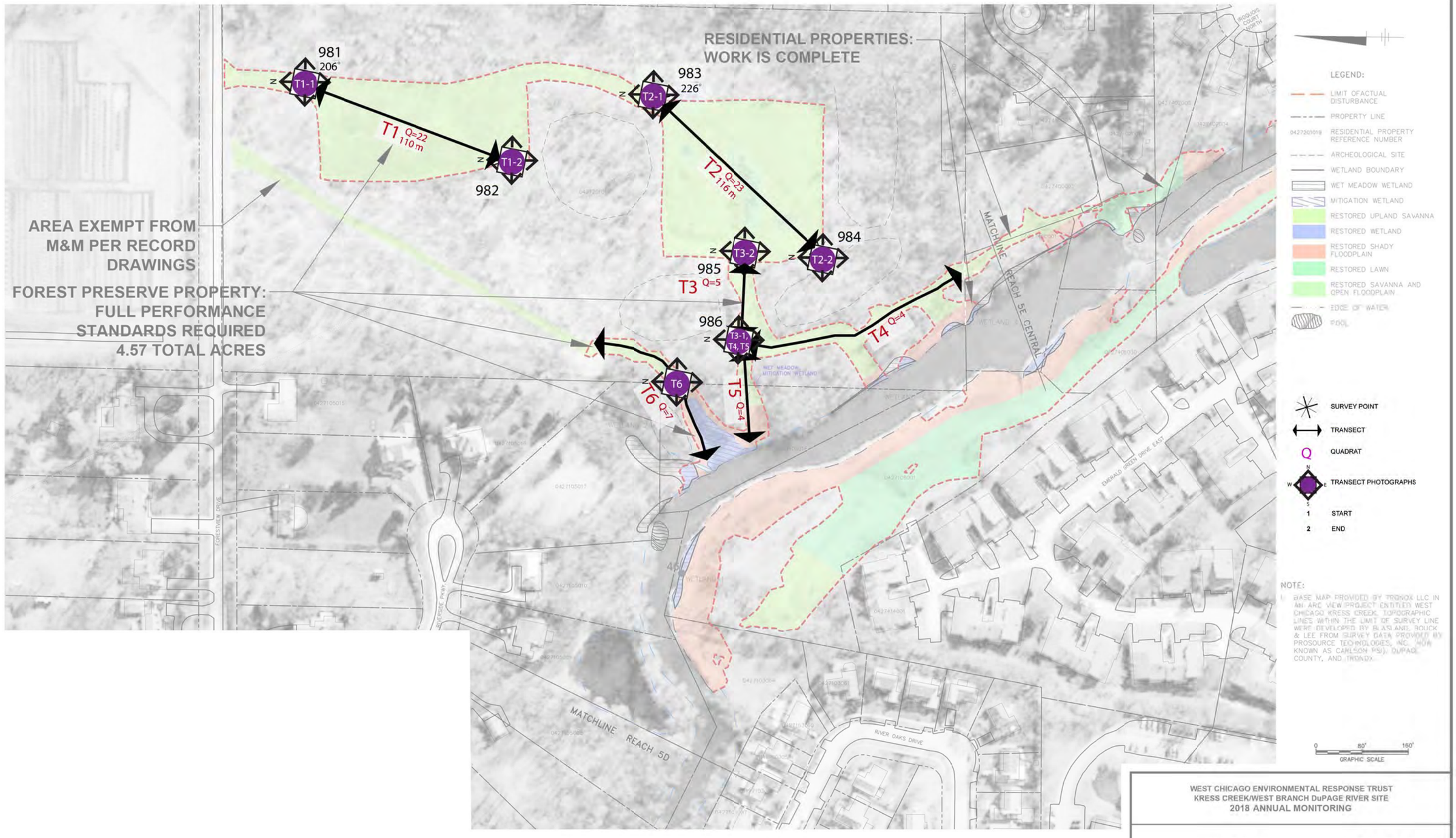


FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12A, TRACER NO. B0071030/0000/00026/DWG/71030G10.DWG, DATED 5/21/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 5E MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-1

Reach 5E- Transect 1 (Start)- North

Reach 5E- Transect 1 (End)- North

Reach 5E- Transect 2 (Start)- North

Reach 5E- Transect 1 (Start)- East

Reach 5E- Transect 1 (End)- East

Reach 5E- Transect 2 (Start)- East

Reach 5E- Transect 1 (Start)- South

Reach 5E- Transect 1 (End)- South

Reach 5E- Transect 2 (Start)- South

Reach 5E- Transect 1 (Start)- West

Reach 5E- Transect 1 (End)- West

Reach 5E- Transect 2 (Start)- West

Reach 5E- Transect 2 (End)- North


Reach 5E- Transect 2 (End)- East


Reach 5E- Transect 3 (End)- South


Reach 5E- Transect 3 (Start), Transect 5- West


Reach 5E- Transect 2 (End)- South


Reach 5E- Transect 3 (End)- West


Reach 5E- Transect 6- North


Reach 5E- Transect 2 (End)- West


Reach 5E- Transect 3 (Start)- North


Reach 5E- Transect 6- East


Reach 5E- Transect 3 (End)- East


Reach 5E- Transect 3 (Start)- East


Reach 5E- Transect 6- South


Reach 5E- Transect 3 (End)- North


Reach 5E- Transect 3 (Start), Transect 4- South


Reach 5E- Transect 6- West

AREA 10: NO M&M REQUIRED (9/27/13)

AREA 11: FULL PERFORMANCE STANDARDS REQUIRED, 2.86 ACRES BANK STABILITY MONITORING REQUIRED, 680 LF

AREA 9: NO M&M REQUIRED (9/27/13), BANK STABILITY MONITORING REQUIRED, 600 LF

T1-1 N

T2-2 N

944

943

T2-1 N

T2 Q=5 22 m

942

T1-2 N

T1 Q=11 214 m

MATCHLINE DRAWING B-11G

RAYMOND DRIVE

MATCHLINE DRAWING B-11H

GRAVEL PARKING LOT

FERRY CREEK: BANK STABILITY MONITORING REQUIRED TO CONFLUENCE WITH RIVER BOTH BANKS, 1500 LF TOTAL

AREA 12: FULL PERFORMANCE STANDARDS REQUIRED (EXCLUDES GRAVEL LOT) 8.98 ACRES (TOTAL)

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

- SURVEY POINT
- TRANSECT
- Q QUADRAT
- TRANSECT PHOTOGRAPHS
- 1 START
- 2 END

0 60' 120' GRAPHIC SCALE

MAP UPDATED: 8-17-2015

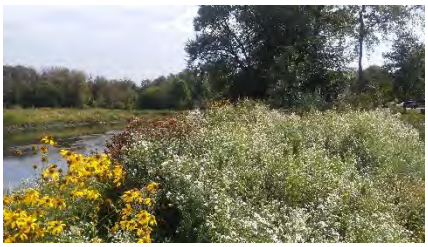
WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

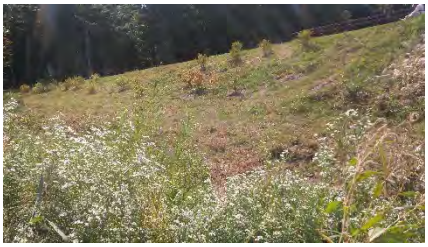
FIGURE B-11H


Reach 8b Area 11- Transect 1(Start)- North


Reach 8b Area 11- Transect 1(End)- East


Reach 8b Area 11- Transect 2(Start)- South


Reach 8b Area 11- Transect 1(Start)- East


Reach 8b Area 11- Transect 1(End)- South


Reach 8b Area 11- Transect 2(Start)- West


Reach 8b Area 11- Transect 1(Start)- South


Reach 8b Area 11- Transect 1(End)- West


Reach 8b Area 11- Transect 2(End)- North


Reach 8b Area 11- Transect 1(Start)- West


Reach 8b Area 11- Transect 2(Start)- North


Reach 8b Area 11- Transect 2(End)- East


Reach 8b Area 11- Transect 1(End)- North


Reach 8b Area 11- Transect 2(Start)- East

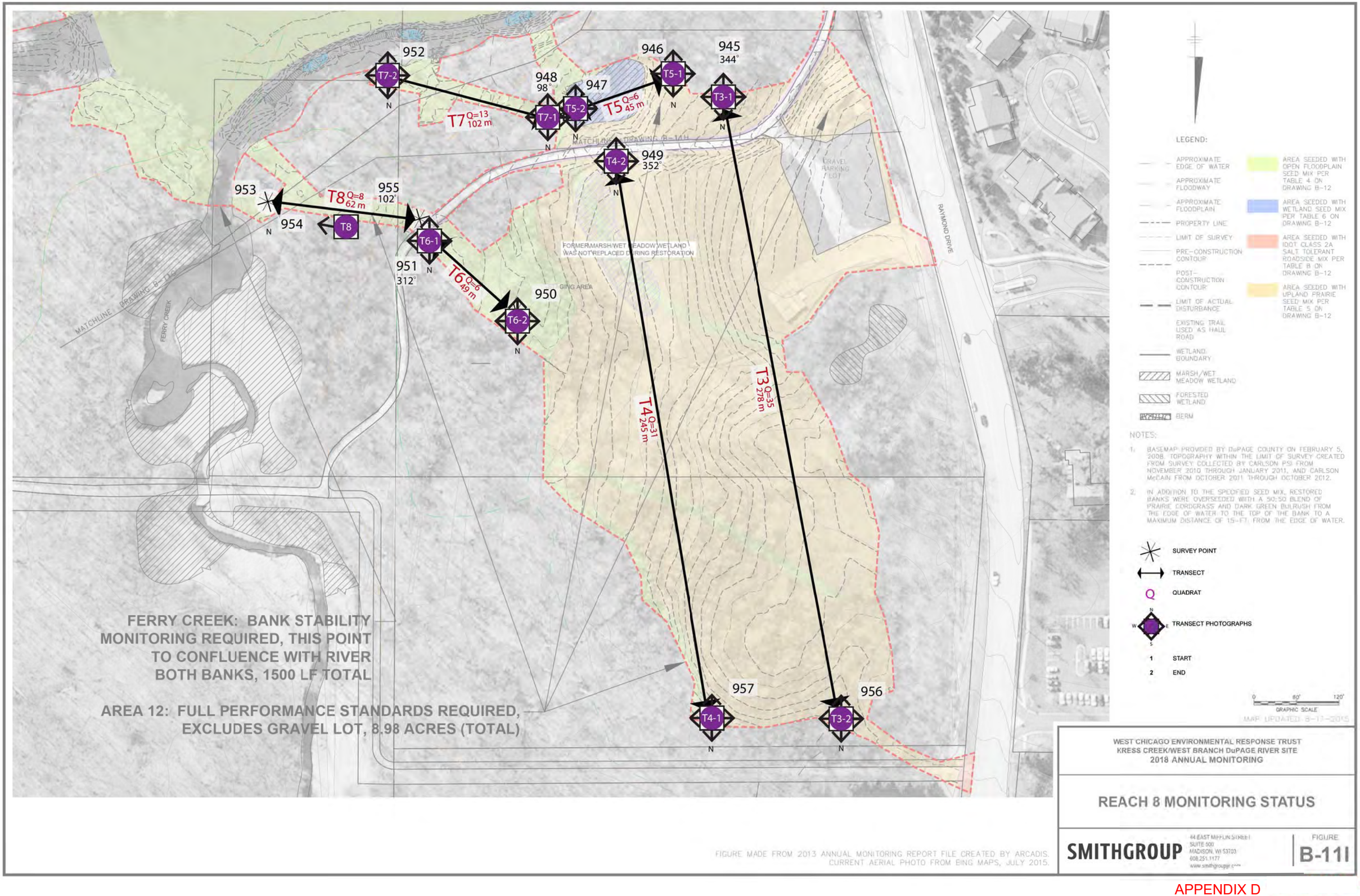


FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

Reach 8b Area 11- Transect 2(End)- South

Reach 8b Area 12- Transect 3 (Start)- South

Reach 8b Area 12- Transect 3 (End)-South

Reach 8b Area 11- Transect 2(End)- West

Reach 8b Area 12- Transect 3 (Start)- West

Reach 8b Area 12- Transect 3 (End)- West

Reach 8b Area 12- Transect 3 (Start)- North

Reach 8b Area 12- Transect 3 (End)- North

Reach 8b Area 12- Transect 4 (Start)- North

Reach 8b Area 12- Transect 3 (Start)- East

Reach 8b Area 12- Transect 3 (End)- East

Reach 8b Area 12- Transect 4 (Start)- East


Reach 8b Area 12- Transect 4 (Start)- South


Reach 8b Area 12- Transect 4 (Start)- West


Reach 8b Area 12- Transect 4 (End)- North


Reach 8b Area 12- Transect 4 (End)- East


Reach 8b Area 12- Transect 4 (End)- South


Reach 8b Area 12- Transect 4 (End)- West


Reach 8b Area 12- Transect 5 (End)- North


Reach 8b Area 12- Transect 5 (Start)- North


Reach 8b Area 12- Transect 5 (End)- East

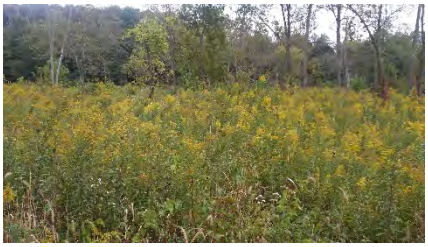

Reach 8b Area 12- Transect 5 (Start)- East


Reach 8b Area 12- Transect 5 (End)- South


Reach 8b Area 12- Transect 5 (Start)- South


Reach 8b Area 12- Transect 5 (End)- West


Reach 8b Area 12- Transect 5 (Start)- West


Reach 8b Area 12- Transect 6 (Start)- North


Reach 8b Area 12- Transect 6 (Start)- East


Reach 8b Area 12- Transect 6 (End)- South


Reach 8b Area 12- Transect 7 (Start)- West


Reach 8b Area 12- Transect 6 (Start)- South


Reach 8b Area 12- Transect 6 (End)- West


Reach 8b Area 12- Transect 7 (End)- North


Reach 8b Area 12- Transect 6 (Start)- West


Reach 8b Area 12- Transect 7 (Start)- North


Reach 8b Area 12- Transect 7 (End)- East


Reach 8b Area 12- Transect 6 (End)- North


Reach 8b Area 12- Transect 7 (Start)- East


Reach 8b Area 12- Transect 7 (End)- South


Reach 8b Area 12- Transect 6 (End)- East


Reach 8b Area 12- Transect 7 (Start)- South


Reach 8b Area 12- Transect 7 (End)- West


Reach 8b Area 12- Transect 8 (no quadrats)

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11A

Reach 8a Pod 8-3- Transect 10 (Start)- North

Reach 8a Pod 8-3- Transect 10 (End)-North

Reach 8a Pod 8-3- Transect 10 (Start)- East

Reach 8a Pod 8-3- Transect 10 (End)- East

Reach 8a Pod 8-3- Transect 10 (Start)- South

Reach 8a Pod 8-3- Transect 10 (End)- South

Reach 8a Pod 8-3- Transect 10 (Start)- West

Reach 8a Pod 8-3- Transect 10 (End)- West

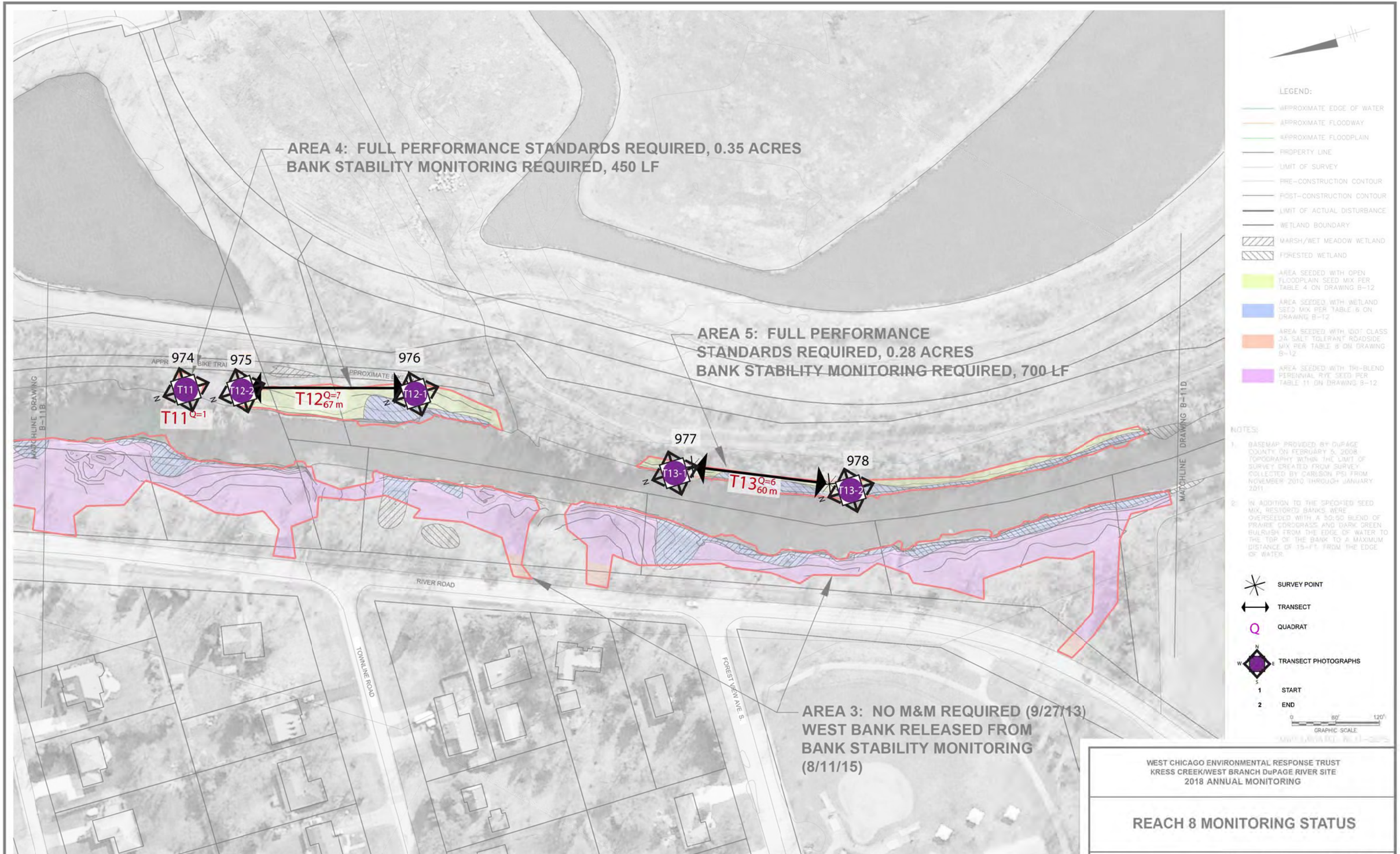


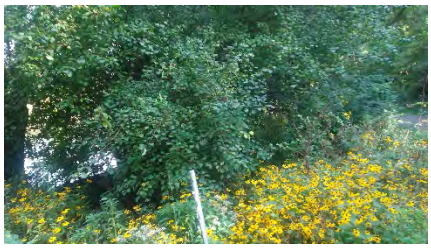
FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

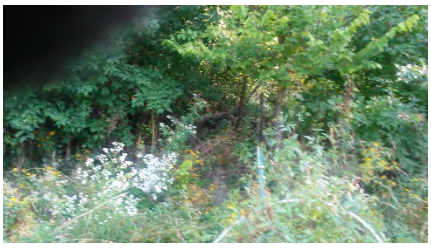
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE
B-11C

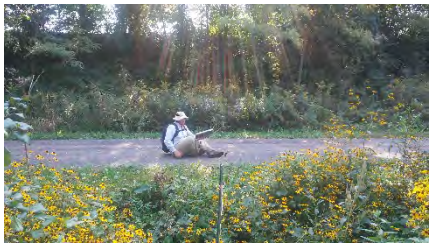


Reach 8a Area 4- Transect 11- North

Reach 8a Area 5- Transect 12 (Start)- North



Reach 8a Area 5- Transect 12 (End)- North



Reach 8a Area 4- Transect 11- East

Reach 8a Area 4- Transect 12 (Start)- East

Reach 8a Area 5- Transect 12 (End)- East

Reach 8a Area 4- Transect 11- South

Reach 8a Area 4- Transect 12 (Start)- South

Reach 8a Area 4- Transect 12 (End)- South

Reach 8a Area 5- Transect 11- West

Reach 8a Area 4- Transect 12 (Start)- West

Reach 8a Area 4- Transect 12 (End)- West

Reach 8a Area 5- - Transect 13 (Start)- North

Reach 8a Area 5- Transect 13 (Start)- West

Reach 8a Area 5- Transect 13 (End)- South

Reach 8a Area 5- Transect 13 (Start)- East

Reach 8a Area 5- Transect 13 (End)- North

Reach 8a Area 5- Transect 13 (End)- West

Reach 8a Area 5- Transect 13 (Start)- South

Reach 8a Area 5- Transect 13 (End)- East

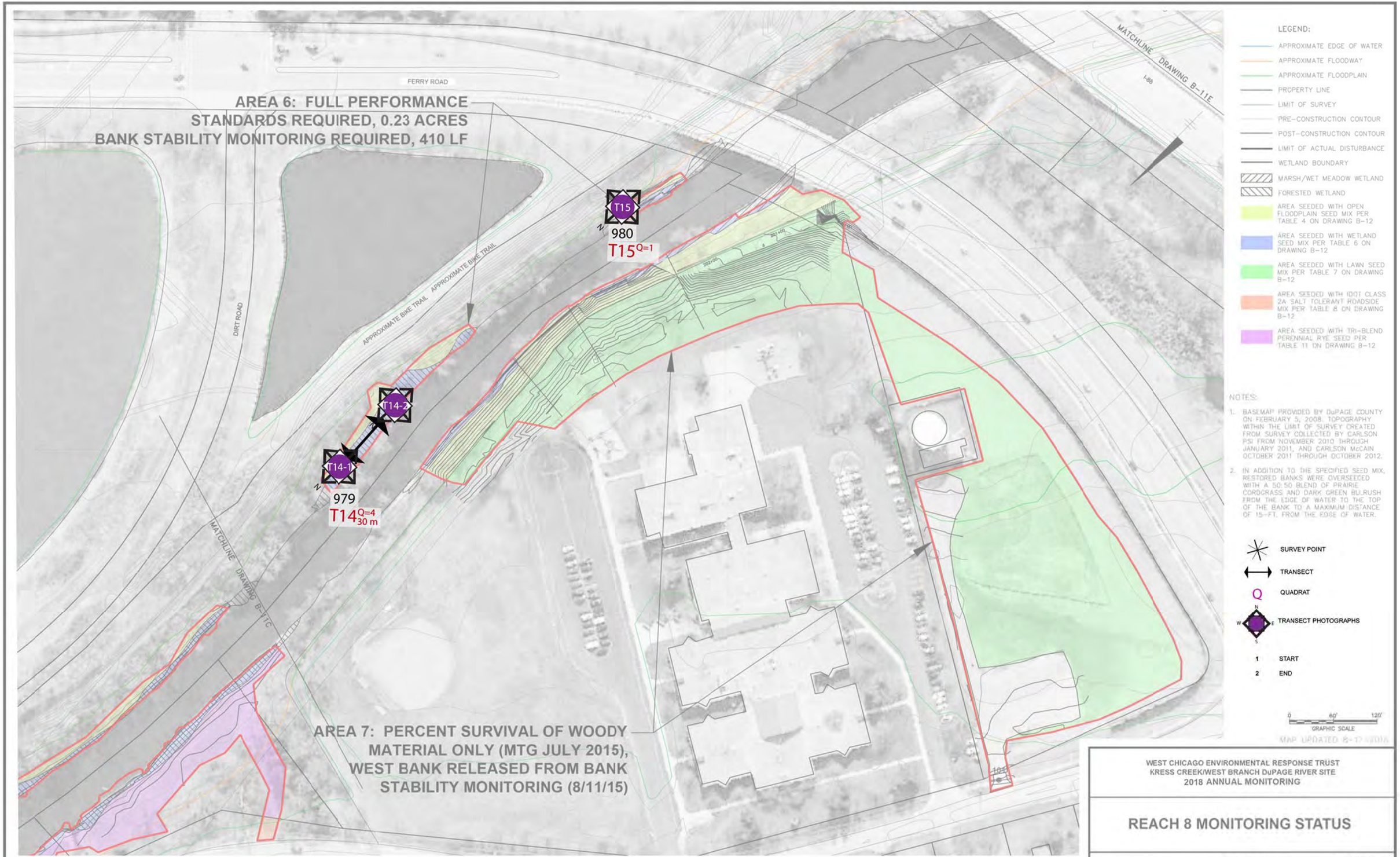


FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
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REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
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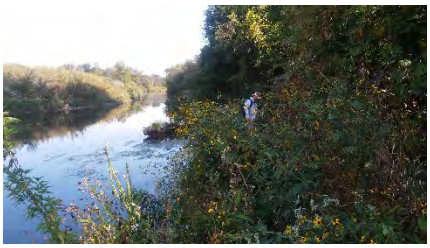
FIGURE B-11D

Reach 8a Area 6- Transect 14 (Start)- North

Reach 8a Area 6- Transect 14 (End)- North

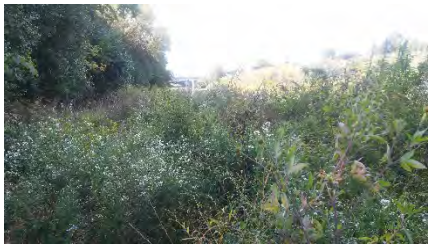


Reach 8a Area 6- Transect 15- North

Reach 8a Area 6- Transect 14 (Start)- East

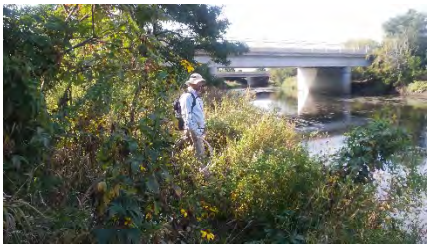
Reach 8a Area 6- Transect 14 (End)- East

Reach 8a Area 6- Transect 15- East



Reach 8a Area 6- Transect 14 (Start)- South

Reach 8a Area 6- Transect 14 (End)- South



Reach 8a Area 6- Transect 15- South

Reach 8a Area 6- Transect 14 (Start)- West

Reach 8a Area 6- Transect 14 (End)- West

Reach 8a Area 6- Transect 15- West

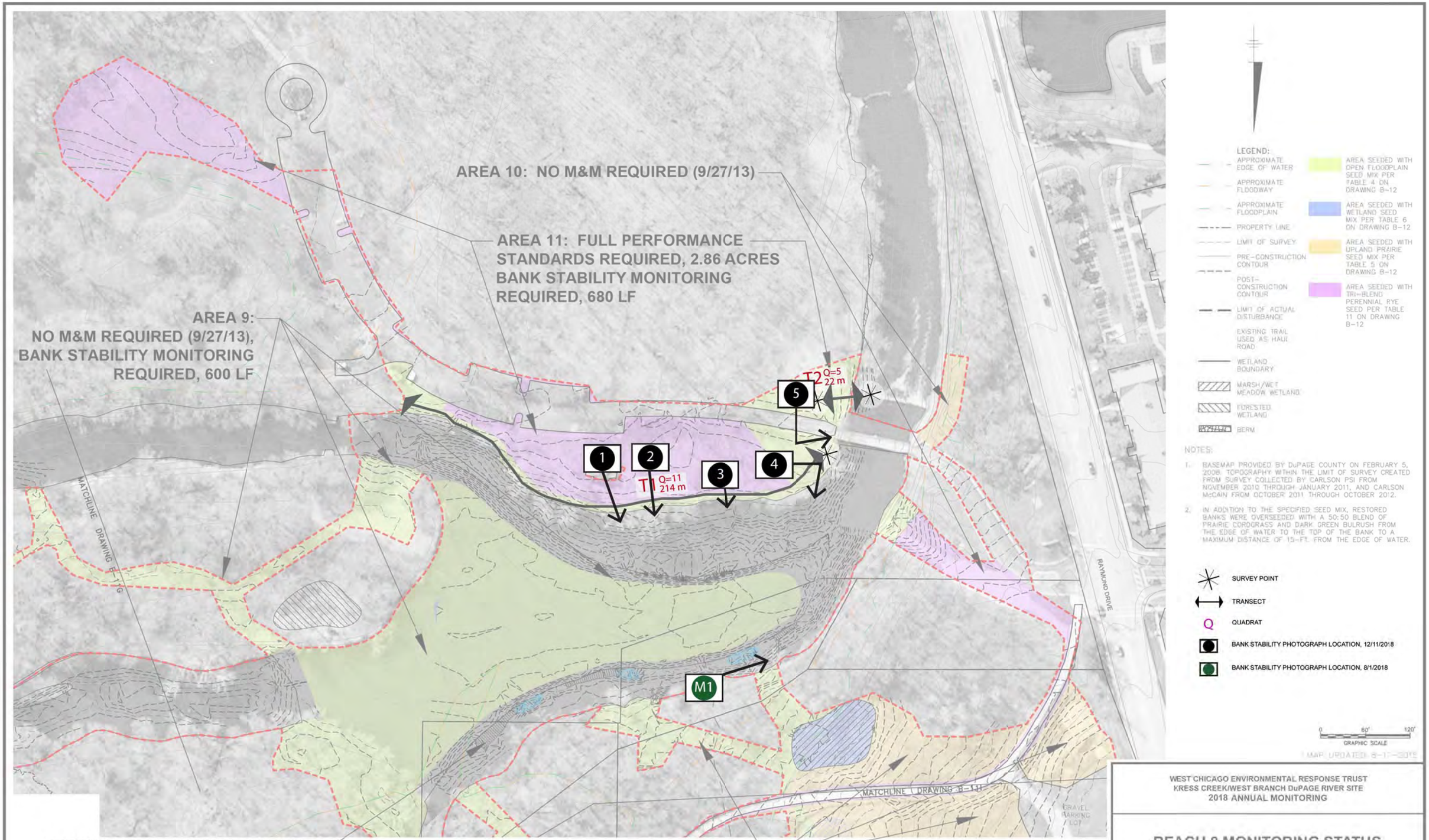


FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
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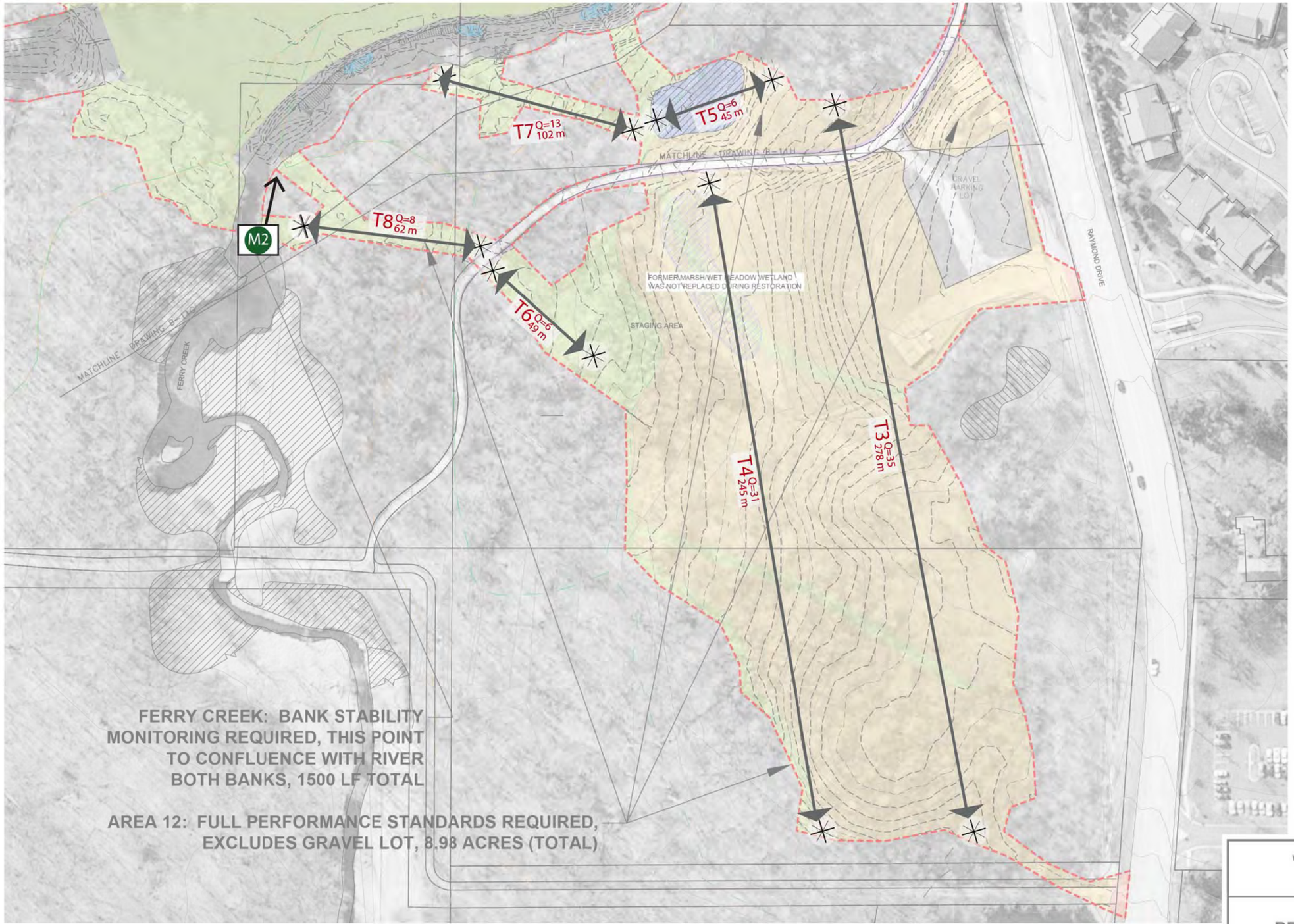
FIGURE B-11H



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

- SURVEY POINT
- TRANSECT
- Q QUADRAT
- BANK STABILITY PHOTOGRAPH LOCATION, 8/1/2018

0 60' 120'
GRAPHIC SCALE

MAP UPDATED: 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

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FIGURE B-11I

Reach 8B- Photo 1

Reach 8B- Photo 2

Reach 8B- Photo 3

Reach 8B- Photo 4

Reach 8B- Photo 5

Reach 8B - Photo M1

Reach 8B – Photo M2

2018 Annual Monitoring Report

Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix E

2018 Project Schedule

Milestone Description	Progress	Start	End	No. Days
Meetings				
Meeting with Agencies to Review 2019 Recommendations	0%	1/21/2019	1/21/2019	1
Meeting with Local Communities to Review Woody Plant Replacement	0%	9/3/2019	9/3/2019	1
Implementation of Remedial Planting and Seedings				
Till and Broadcast Herbicide west end of Reach 5D Upland Savanna	0%	4/1/2019	5/3/2019	20
Re-Seed west end of Reach 5D Upland svanna	0%	5/6/2019	5/31/2019	30
Install plant plugs in Reach 8, Area 4	0%	5/20/2019	6/28/2019	20
Implementation of Tree and Shrub Management				
Reset Stakes at Mack Rd. and Reach 8B.	0%	4/1/2019	5/24/2019	25
Implementation of Vegetation Management Activities				
Control Burn Reach 5E	0%	3/15/2019	4/19/2019	20
Spot Herbicide (as needed) Reach 8B Pod R8-3, Areas 4, 5, 6, Reach 8B, Areas 11, 12, and Reach 5D & 5E	0%	4/22/2019	10/4/2019	100
Mow or spot mow of Reach 8A, Pod R8-3, Reach 8B, Area 12, Reach 5D, and Reach 5E (3x)	0%	5/6/2019	9/13/2019	110
Cut and Herbicide Woody Weeds of Reach 8B, Areas 11 & 12	0%	4/22/2019	6/28/2019	45
Vegetation Monitoring				
Inventory Flora, Early Summer 2019	0%	6/3/2019	6/28/2019	22
Inventory and Assess Tree Survival / Replacement Recommendations	0%	8/5/2019	8/30/2019	23
Inventory and Quantitative Sampling, Late Summer 2019	0%	8/12/2019	9/27/2019	12
Reporting				
Prepare Draft Annual Report	0%	9/30/2019	12/18/2019	40
Review of Draft Report by WCERT	0%	12/19/2019	1/10/2020	10
Finalize Report for Distribution to Agencies	0%	1/13/2020	1/17/2020	8
Distribute Report to Agencies	0%	1/20/2020	1/20/20/	1
Agency Report Review	0%	1/21/2020	1/31/2020	12
Finalize Report with Agency Comments	0%	2/3/2020	2/7/2020	5